



SHI-PRODUKTPASS

Produkte finden - Gebäude zertifizieren

SHI-Produktpass-Nr.:

1093-10-1019

OTTOCOLL® M 530 HiSpeed

Warengruppe: Spezialkleber - Klebstoff - Montagekleber



OTTO-CHEMIE
Krankenhausstraße 14
83413 Fridolfing



Produktqualitäten:



Köttner

Helmut Köttner
Wissenschaftlicher Leiter
Freiburg, den 04.12.2025



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DICHTEN & KLEBEN

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Wir sind stolz darauf, dass die SHI-Datenbank, die erste und einzige Datenbank für Bauprodukte ist, die ihre umfassenden Prozesse sowie die Aktualität regelmäßig von dem unabhängigen Prüfunternehmen SGS-TÜV Saar überprüfen lässt.





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SHI-Produktbewertung 2024

Seit 2008 etabliert die Sentinel Holding Institut GmbH (SHI) einen einzigartigen Standard für schadstoffgeprüfte Produkte. Experten führen unabhängige Produktprüfungen nach klaren und transparenten Kriterien durch. Zusätzlich überprüft das unabhängige Prüfunternehmen SGS regelmäßig die Prozesse und Aktualität.

Kriterium	Produktkategorie	Schadstoffgrenzwert	Bewertung
SHI-Produktbewertung	Dichtstoffe und Klebstoffe	TVOC $\leq 300 \mu\text{g}/\text{m}^3$ Formaldehyd $\leq 24 \mu\text{g}/\text{m}^3$	Schadstoffgeprüft
Gültig bis: 11.12.2030			



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QNG - Qualitätssiegel Nachhaltiges Gebäude

Das Qualitätssiegel Nachhaltiges Gebäude, entwickelt durch das Bundesministerium für Wohnen, Stadtentwicklung und Bauwesen (BMWSB), legt Anforderungen an die ökologische, soziokulturelle und ökonomische Qualität von Gebäuden fest. Das Sentinel Holding Institut prüft Bauprodukte gemäß den QNG-Anforderungen für eine Zertifizierung und vergibt das QNG-ready Siegel. Das Einhalten des QNG-Standards ist Voraussetzung für den KfW-Förderkredit. Für bestimmte Produktgruppen hat das QNG derzeit keine spezifischen Anforderungen definiert. Diese Produkte sind als nicht bewertungsrelevant eingestuft, können jedoch in QNG-Projekten genutzt werden.

Kriterium	Pos. / Bauproduktgruppe	Betrachtete Stoffe	QNG Freigabe
3.1.3 Schadstoffvermeidung in Baumaterialien	4.2 Bauseitig verarbeitete Kleb- und Dichtstoffe auf Basis von PU-, PU-Hybrid- und SMP-Rezepturen (silanmodifizierte Polymere) in Innenräumen	VOC / Emissionen / gefährliche Stoffe / Chlorparaffine / Polybromierte Biphenyle (PBB) / Polybromierte Diphenylether (PBDE) / SVHC	QNG-ready
Nachweis: Sicherheitsdatenblatt 22.10.2024, Nachhaltigkeitsdatenblatt 22.02.2024			



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DICHTEN & KLEBEN

DGNB Neubau 2023

Das DGNB-System (Deutsche Gesellschaft für Nachhaltiges Bauen) bewertet die Nachhaltigkeit von Gebäuden verschiedener Art. Das System ist sowohl anwendbar für private und gewerbliche Großprojekte als auch für kleinere Wohngebäude. Die Version 2023 setzt hohe Standards für ökologische, ökonomische, soziokulturelle und funktionale Aspekte während des gesamten Lebenszyklus eines Gebäudes.

Kriterium	Pos. / Relevante Bauteile / Bau-Materialien / Flächen	Betrachtete Stoffe / Aspekte	Qualitätsstufe
ENV 1.2 Risiken für die lokale Umwelt, 03.05.2024 (3. Auflage)	11 Verklebungen und Abdichtungen im Innenraum	VVOC, VOC, SVOC Emissionen und Gehalt an Oximen	Qualitätsstufe: 4

Nachweis: Sicherheitsdatenblatt 22.10.2024, EC1 Plus Zertifikat (12749/10.10.13) 11.12.2025

Kriterium	Pos. / Relevante Bauteile / Bau-Materialien / Flächen	Betrachtete Stoffe / Aspekte	Qualitätsstufe
ENV 1.2 Risiken für die lokale Umwelt, 29.05.2025 (4. Auflage)	11 Verklebungen und Abdichtungen im Innenraum	VVOC, VOC, SVOC Emissionen und Gehalt an Oximen	Qualitätsstufe: 4

Nachweis: Sicherheitsdatenblatt 22.10.2024, EC1 Plus Zertifikat (12749/10.10.13) 11.12.2025



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DGNB Neubau 2018

Das DGNB-System (Deutsche Gesellschaft für Nachhaltiges Bauen) bewertet die Nachhaltigkeit von Gebäuden verschiedener Art. Das System ist sowohl anwendbar für private und gewerbliche Großprojekte als auch für kleinere Wohngebäude.

Kriterium	Pos. / Relevante Bauteile / Bau-Materialien / Flächen	Betrachtete Stoffe / Aspekte	Qualitätsstufe
ENV 1.2 Risiken für die lokale Umwelt	12 Kleinflächige Verklebungen mechanisch belasteter Fugen; nicht betrachtet werden hier die Bereiche Glasbau, Fassade und Brandschutz	Chlorparaffine, Lösemittel, KWS	Qualitätsstufe: 4
Nachweis: Nachhaltigkeitsdatenblatt 22.02.2024			



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DICHTEN & KLEBEN

BNB-BN Neubau V2015

Das Bewertungssystem Nachhaltiges Bauen ist ein Instrument zur Bewertung von Büro- und Verwaltungsgebäuden, Unterrichtsgebäuden, Laborgebäuden sowie Außenanlagen in Deutschland. Das BNB wurde vom damaligen Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit (BMUB) entwickelt und unterliegt heute dem Bundesministerium für Wohnen, Stadtentwicklung und Bauwesen.

Kriterium	Pos. / Bauprodukttyp	Betrachtete Schadstoffgruppe	Qualitätsniveau
1.1.6 Risiken für die lokale Umwelt	8 Kleb- und Dichtstoffe aus PU, SMP (silanmodifizierte Polymere), Acrylat (einschließlich Dispersionsklebstoffe) oder Silikon	VOC / gefährliche Stoffe / Biozide	Qualitätsniveau 5

Nachweis: Sicherheitsdatenblatt 22.10.2024, Nachhaltigkeitsdatenblatt 22.02.2024, EC1 Plus Zertifikat (12749/10.10.13) 11.12.2025



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EU-Taxonomie

Die EU-Taxonomie klassifiziert wirtschaftliche Aktivitäten und Produkte nach ihren Umweltauswirkungen. Auf der Produktebene gibt es gemäß der EU-Verordnung klare Anforderungen zu Formaldehyd und flüchtigen organischen Verbindungen (VOC). Die Sentinel Holding Institut GmbH kennzeichnet qualifizierte Produkte, die diesen Standard erfüllen.

Kriterium	Produkttyp	Betrachtete Stoffe	Bewertung
DNSH - Vermeidung und Verminderung der Umweltverschmutzung		Stoffe nach Anlage C	EU-Taxonomie konform
Nachweis: Sicherheitsdatenblatt vom 22.10.2024 (Druckdatum)			



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BREEAM DE Neubau 2018

BREEAM (Building Research Establishment Environmental Assessment Methodology) ist ein britisches Gebäudebewertungssystem, welches die Nachhaltigkeit von Neubauten, Sanierungsprojekten und Umbauten einstuft. Das Bewertungssystem wurde vom Building Research Establishment (BRE) entwickelt und zielt darauf ab, ökologische, ökonomische und soziale Auswirkungen von Gebäuden zu bewerten und zu verbessern.

Kriterium	Produktkategorie	Betrachtete Stoffe	Qualitätsstufe
Hea 02 Qualität der Innenraumluft	Kleb- und Dichtstoffe für den Innenraumbereich (einschließlich Bodenbelagsklebstoffe)	Emissionen: Formaldehyd, TVOC, TSVOC, Krebserregende Stoffe	herausragende Qualität
Nachweis: EMICODE EC1+-Zertifikat vom 11.12.2025			



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DICHTEN & KLEBEN

Produktsiegel

In der Baubranche spielt die Auswahl qualitativ hochwertiger Materialien eine zentrale Rolle für die Gesundheit in Gebäuden und deren Nachhaltigkeit. Produktlabels und Zertifikate bieten Orientierung, um diesen Anforderungen gerecht zu werden. Allerdings besitzt jedes Zertifikat und Label eigene Prüfkriterien, die genau betrachtet werden sollten, um sicherzustellen, dass sie den spezifischen Bedürfnissen eines Bauvorhabens entsprechen.



Das EMICODE®-Prüfzeichen des von Herstellern getragenen Vereins GEV – Gemeinschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e. V. ist vor allem im Bereich der Bodenverlegewerkstoffe relevant. Das EMICODE®-Siegel EC1^{PLUS} setzt als Premiumklasse noch einmal deutlich strengere Emissionsgrenzwerte als die anderen Siegelkategorien.



Produkte mit dem QNG-ready Siegel des Sentinel Holding Instituts eignen sich für Projekte, für welche das Qualitätssiegel Nachhaltiges Gebäude (QNG) angestrebt wird. QNG-ready Produkte erfüllen die Anforderungen des QNG Anhangdokument 3.1.3 "Schadstoffvermeidung in Baumaterialien". Das KfW-Kreditprogramm Klimafreundlicher Neubau mit QNG kann eine höhere Fördersumme ermöglichen.



Dieses Produkt ist schadstoffgeprüft und wird vom Sentinel Holding Institut empfohlen. Gesundes Bauen, Modernisieren und Betreiben von Immobilien erfolgt dank des Sentinel Holding Konzepts nach transparenten und nachvollziehbaren Kriterien.



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Rechtliche Hinweise

(*) Die Kriterien dieses Steckbriefs beziehen sich auf das gesamte Bauobjekt. Die Bewertung erfolgt auf der Ebene des Gebäudes. Im Rahmen einer sachgemäßen Planung und fachgerechten Installation können einzelne Produkte einen positiven Beitrag zum Gesamtergebnis der Bewertung leisten. Das Sentinel Holding Institut stützt sich einzig auf die Angaben des Herstellers.

Alle Kriterien finden Sie unter:

<https://www.sentinel-holding.eu/de/Themenwelten/Pr%C3%BCfverfahren/kriterien%20f%C3%BCr%20Produkte>

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Herausgeber

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OTTOCOLL® M 530 HiSpeed

SPEZIAL

Der Hybrid-Klebstoff mit sehr schneller Klebfestigkeit



1K-Hybrid-Polymer STP-Klebstoff

Für Innen und Außen

M 530



Eigenschaften

- ▶ Nach 20 Minuten handfest und nach 3 Stunden funktionsfest - Schnelles Weiterarbeiten bei dünner Klebschicht und diffusionsoffenen Materialien möglich
- ▶ Hohe Endfestigkeit - Widerstandsfähig gegen hohe mechanische Beanspruchungen
- ▶ Natursteinverträglich - Verursacht keine Verfärbung an Natursteinen
- ▶ Haftet auch auf feuchten Untergründen
- ▶ Elastisch - Gleicht Bewegungen aus
- ▶ Überstreichbar / Überlackierbar - bitte Anwendungshinweise im technischen Datenblatt beachten
- ▶ Silikonfrei
- ▶ Isocyanatfrei



Anwendungsgebiete

- ▶ Kleben von Stein, Naturstein und Keramik
- ▶ Kleben von Fensterbänken, Fußbodenleisten, Zierleisten und Treppenstufen
- ▶ Kleben und Montieren unterschiedlichster Materialien wie Holz, Holzwerkstoffe, Kunststoffe, Metalle und mineralische Untergründe

Normen und Prüfungen

- ▶ Entspricht den Anforderungen des Brandverhaltens nach EN 13501: Klasse E
- ▶ EMICODE® EC 1 Plus - sehr emissionsarm
- ▶ Sentinal Holding Institut - Zertifiziert und ausgezeichnet mit dem SHI-Produktpass - Einstufung für DGNB, QNG, BNB, BREEAM und EU-Taxonomie
- ▶ Französische VOC-Emissionsklasse A+
- ▶ Deklaration in Baubook Österreich

Technische Daten

Hautbildungszeit bei 23 °C/50 % rLf [min]	~ 5
Aushärtung in 24 Std. bei 23 °C/50 % rLf [mm]	~ 2
Verarbeitungstemperatur von/bis [°C]	+ 5 / + 40
Viskosität bei 23 °C	pastös, standfest
Dichte bei 23 °C nach ISO 1183-1 [g/cm³]	~ 1,4
Shore-A-Härte nach ISO 868	~ 67
Dehnungswert bei 100 % nach ISO 37, Typ 3 [N/mm²]	~ 2,4
Reißdehnung nach ISO 37, Typ 3 [%]	~ 300
Zugfestigkeit nach ISO 37, Typ 3 [N/mm²]	~ 3,6
Temperaturbeständigkeit von/bis [°C]	- 40 / + 90

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DICHTEN & KLEBEN

Lagerstabilität bei 23 °C/50 % rLf für Kartusche [Monate]	18 ¹
Maximal zulässige Spannung (bei Klebungen ohne Lastabtrag) zur Auslegung der Klebefläche [N/mm²]	0,001

1) ab Herstellung

Diese Werte sind nicht zur Erstellung von Spezifikationen bestimmt. Bitte wenden Sie sich vor der Erstellung von Spezifikationen an OTTO-CHEMIE.

Vorbehandlung

Die Haftflächen müssen gereinigt und jegliche Verunreinigungen, wie Trennmittel, Konservierungsmittel, Fett, Öl, Staub, Wasser, alte Kleb-/Dichtstoffe sowie andere die Haftung beeinträchtigende Stoffe entfernt werden. Reinigen von nicht-porösen Untergründen: Reinigung mit OTTO Cleaner T (keine Ablüftezeit erforderlich) und sauberem, flusenfreiem Tuch. Reinigen von porösen Untergründen: Oberflächen mechanisch, z.B. mit einer Stahlbürste oder einer Schleifscheibe, von losen Partikeln säubern.

Die Haftflächen müssen sauber, staub- und fettfrei sowie tragfähig sein.

Grundierungstabelle

Die Anforderungen an elastische Abdichtungen und Klebungen sind abhängig von den jeweiligen äußeren Einflüssen. Extreme Temperaturschwankungen, Dehn- und Scherkräfte, wiederholter Kontakt mit Wasser etc. stellen hohe Ansprüche an eine Haftverbindung. In solchen Fällen ist bei Empfehlungen (z.B. +/OTTO Primer 1216) die Verwendung des genannten Primers ratsam, um eine möglichst belastbare Verbindung zu erzielen.

Acrylglas/PMMA	+
Acryl-Sanitär (z.B. Wannen)	+
Aluminium blank	+
Aluminium eloxiert	+
Beton	+
Edelstahl	+
Faserzement	+
Glas	+
Holz, lackiert (lösemittelhaltig)	+
Holz, lackiert (wässrige Systeme)	+
Holz, lasiert (lösemittelhaltig)	+
Holz, lasiert (wässrige Systeme)	+
Holz, unbehandelt	+
Keramik, glasiert	+
Keramik, unglasiert	+
Kupfer	+
Melaminharzplatten	+
Naturstein	+
Polypropylen (PP)	-
Polycarbonat	+
Putz	+
PVC-hart	T
Zink, verzinktes Eisen	+

+ = ohne Grundierung gute Haftung

- = nicht geeignet

T = Test/Vorversuch empfohlen

Besondere Hinweise

Vor dem Einsatz des Produktes hat der Anwender sicherzustellen, dass die Werkstoffe/Materialien in dem Kontaktbereich mit diesem und miteinander verträglich sind und sich nicht schädigen oder verändern (z. B. verfärben). Bei Werkstoffen/Materialien, die in der Folge im Bereich des Produktes verarbeitet werden, hat der Anwender im Vorfeld abzuklären, dass deren Inhaltsstoffe bzw. Ausdünstungen zu keiner Beeinträchtigung oder Veränderung (z. B. Verfärbung) des Produktes führen können. Gegebenenfalls hat der Anwender Rücksprache mit dem jeweiligen Hersteller der Werkstoffe/Materialien zu nehmen.

Farben, Lacke, Kunststoffe und andere Beschichtungsmaterialien müssen mit dem Kleb-/Dichtstoff verträglich sein.

Bei UV- belasteten Klebungen/ Abdichtungen von Glas empfehlen wir die Verwendung unserer hochwertigen Silikon-Kleb-/ Dichtstoffe wie OTTOSEAL® S 110 / S 120 (für Glasfalzabdichtungen), OTTOSEAL® S 10 (u.a. für Klebungen), OTTOSEAL® S 7 (für Wetterversiegelungen) oder OTTOCOLL® S 81 (für geklebtes Fenster).

Bei UV-belasteten Klebungen/ Abdichtungen von transparenten Kunststoffen wie z. B. Acrylglas empfehlen wir unseren Silikon-Dichtstoff OTTOSEAL® S 72.

Nicht für die Abdichtung/Klebung von Kupfer unter UV-/Temperatureinwirkung geeignet.

Die Farbtöne können durch Umwelteinflüsse beeinträchtigt werden (hohe Temperatur, Chemikalien, Dämpfe, UV-Strahlung). Dieses hat keinen Einfluss auf die Produkteigenschaften.

Anwendungshinweise

Um optimale Haftung und gute mechanische Eigenschaften zu erzielen, muss der Einschluss von Luft vermieden werden.

Die Zeit bis zur Aushärtung kann durch Feuchtigkeitzufuhr und höhere Temperaturen verkürzt werden.

Bei der flächigen Klebung von dampfdichten Substraten sollte der Klebstoff befeuchtet werden.

Unser Produkt kann überstrichen / überlackiert werden. Die Verträglichkeit zwischen Beschichtung und unserem Produkt muss **vor** der Anwendung durch den Anwender/Verarbeiter überprüft werden - ggf. unter Produktionsbedingungen. Unsere OTTO Anwendungstechnik unterstützt Sie gerne unverbindlich. Wird nach erfolgreicher Verträglichkeitsprüfung unser Produkt in Ausnahmefällen ganzflächig überstrichen, muss auch diese Beschichtung der elastischen Bewegung des Dichtstoffes folgen können. Anderenfalls können Rissbildungen im Anstrich oder optische Beeinträchtigungen entstehen.

Farben, Lacke, Kunststoffe und andere Beschichtungsmaterialien müssen mit dem Kleb-/Dichtstoff verträglich sein. Materialien mit alkalischen Inhaltsstoffen können Wechselwirkungen in Form von Verfärbungen verursachen.

Reinmineralische Anstriche (z.B. auf Basis Kaliwasserglas oder Kalk) sind aufgrund der Sprödigkeit des Anstrichs zum ganzflächigen Überstreichen nicht geeignet.

Eine Überarbeitung mit Beschichtungsstoffen kann je nach klimatischen Bedingungen und Anstrichart ab etwa 1 Stunde erfolgen.

In Kontakt mit oxidativ härtenden Anstrichen (z.B. Alkydharz-Lacke) können Trocknung und Aushärtung verzögert oder verhindert werden.

Wir empfehlen Vorversuche.

Beschichtungen sowie deren Ausdünstungen können zu Verfärbungen des Kleb-/ Dichtstoffes führen.

Verfärbungen von Beschichtungen durch Wechselwirkungen mit dem Kleb-/ Dichtstoff sind nicht ausgeschlossen.

Wegen der Vielzahl möglicher Einflüsse bei der Verarbeitung und der Anwendung ist vom Verarbeiter stets eine Probeverarbeitung und -anwendung vorzunehmen.

Das konkrete Aufbrauchdatum ist dem Gebindeaufdruck zu entnehmen und zu beachten.

Wir empfehlen, unsere Produkte in den ungeöffneten Originalgebinden trocken (< 60 % rLF) im Temperaturbereich von + 15° C bis + 25° C zu lagern. Werden die Produkte über längere Zeiträume (mehrere Wochen) bei höherer Temperatur/ Luftfeuchtigkeit gelagert und / oder transportiert, kann eine Verringerung der Haltbarkeit bzw. eine Veränderung der Materialeigenschaften nicht ausgeschlossen werden.

Lieferform

310 ml Kartusche	
 weiß	M530-04-C01
Stück pro Verpackungseinheit	20
Stück pro Palette	1200

Aus darstellungstechnischen Gründen können die abgebildeten Farben von den Originalfarben der Produkte abweichen.

Sicherheitshinweise

Bitte das Sicherheitsdatenblatt beachten.

Nach erfolgter Aushärtung ist das Produkt geruchlos.

Entsorgung

Hinweise zur Entsorgung siehe Sicherheitsdatenblatt.

Markenhinweise

EMICODE® ist eine eingetragene Marke der GEV e. V. (Düsseldorf)

Mängelhaftung

Die vorstehenden Informationen und unsere anwendungstechnische Beratung in Wort, Schrift und durch Versuche erfolgen nach bestem Wissen, gelten jedoch nur als unverbindliche Hinweise, auch in Bezug auf etwaige Schutzrechte Dritter. Die Angaben in dieser Druckschrift befreien den Verarbeiter nicht von einer eigenen Prüfung unserer Produkte im Hinblick auf ihre Eignung für die beabsichtigten Verfahren und Zwecke. Anwendung, Verwendung und Verarbeitung unserer Produkte und der auf Grund unserer anwendungstechnischen Beratung hergestellten Produkte erfolgen außerhalb unserer Kontrollmöglichkeiten und liegen daher ausschließlich in der Verantwortung des Verarbeiters. Unterliegt die Anwendung, für die unsere Produkte herangezogen werden, einer behördlichen Genehmigungspflicht, so ist der Anwender für die Erlangung dieser Genehmigungen verantwortlich. Wir behalten uns das Recht zur Anpassung des Produktes an den technischen Fortschritt und an neue

Entwicklungen vor. Im Übrigen verweisen wir auf unsere Allgemeinen Geschäftsbedingungen, insbesondere auch bezüglich einer etwaigen Mängelhaftung. Sie finden unsere AGB unter www.otto-chemie.de.

Sicherheitsdatenblatt

gemäß Verordnung (EG) Nr. 1907/2006, Artikel 31

Druckdatum: 22.10.2024

Version: 3 (ersetzt Version 2)

überarbeitet am: 22.10.2024

ABSCHNITT 1: Bezeichnung des Stoffs beziehungsweise des Gemischs und des Unternehmens

- **1.1 Produktidentifikator**
- **Handelsname:** OTTOCOLL M 530 HiSpeed
- **Verwendung des Stoffes / des Gemisches** Klebstoff
- **1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt**
- **Hersteller/Lieferant:**
Hermann Otto GmbH
Krankenhausstraße 14
D-83413 Fridolfing
Tel.: 0049/(0)8684/908-0
Fax.: 0049/(0)8684/908-1840
- **Auskunftgebender Bereich:**
Tel.: 0049- (0)8684- 908- 2363 (-4300)
E-Mail: alois.parzinger@otto-chemie.de
- **1.4 Notrufnummer:**
Giftnotruf München Tel.: 0049- (0)89- 192 40 (24 h von Mo.-So.)
für Österreich: 0043-1-40 6-43 43 (Vergiftungsinformationszentrale der Gesundheit Österreich GmbH- 24h täglich)
Tel: 0049 (0)89 220 61012 (Carechem 24)

ABSCHNITT 2: Mögliche Gefahren

- **2.1 Einstufung des Stoffs oder Gemischs**
- **Einstufung gemäß Verordnung (EG) Nr. 1272/2008**
Das Produkt ist gemäß CLP-Verordnung nicht eingestuft.
- **2.2 Kennzeichnungselemente**
- **Kennzeichnung gemäß Verordnung (EG) Nr. 1272/2008 entfällt**
- **Gefahrenpiktogramme entfällt**
- **Signalwort entfällt**
- **Gefahrenhinweise entfällt**
- **Zusätzliche Angaben:**
EUH208 Enthält 3-(2-Aminoethylamino)-propyltrimethoxysilan. Kann allergische Reaktionen hervorrufen.
EUH210 Sicherheitsdatenblatt auf Anfrage erhältlich.
- **2.3 Sonstige Gefahren**
Während der Verarbeitung und Aushärtung des Materials werden chemische Stoffe in die Luft freigesetzt (siehe Punkt 11). Deshalb für gute Raumbelüftung und bei Bedarf für Absaugung sorgen.
- **Ergebnisse der PBT- und vPvB-Beurteilung**
- **PBT:** Nicht anwendbar.
- **vPvB:** Nicht anwendbar.
- **Feststellung endokrinschädlicher Eigenschaften**
Dieses Produkt enthält keine Bestandteile, die gemäß REACH Artikel 57(f) oder der delegierten Verordnung (EU) 2017/2100 der Kommission oder der delegierten Verordnung (EU) 2018/605 der Kommission in Mengen von 0,1 % oder mehr endokrinschädliche Eigenschaften aufweisen.

ABSCHNITT 3: Zusammensetzung/Angaben zu Bestandteilen

- **3.2 Gemische**
- **Beschreibung:** Klebstoff auf Basis Hybrid-Polymer STP

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Gefährliche Inhaltsstoffe:

CAS: 13822-56-5	3-(Trimethoxysilyl)-propylamin	<2,5%
EINECS: 237-511-5	☞ Eye Dam. 1, H318; ☞ Skin Irrit. 2, H315	
Reg.nr.: 01-2119510159-45-xxxx		

CAS: 1760-24-3	3-(2-Aminoethylamino)-propyltrimethoxysilan	<1%
EINECS: 217-164-6	☞ Eye Dam. 1, H318; ☞ Aquatic Chronic 2, H411;	
Reg.nr.: 01-2119970215-39-xxxx	☞ Acute Tox. 4, H332; Skin Sens. 1, H317	

zusätzl. Hinweise:

Der Wortlaut der angeführten Gefahrenhinweise ist dem Abschnitt 16 zu entnehmen.

ABSCHNITT 4: Erste-Hilfe-Maßnahmen**4.1 Beschreibung der Erste-Hilfe-Maßnahmen****nach Einatmen:**

Frischluftezufuhr, gegebenenfalls Atemspende, Wärme. Bei anhaltenden Beschwerden Arzt konsultieren.

nach Hautkontakt:

Sofort mit Wasser und Seife abwaschen und gut nachspülen.

Bei andauernder Hautreizung Arzt aufsuchen.

nach Augenkontakt:

Augen bei geöffnetem Lidspalt mehrere Minuten unter fließendem Wasser abspülen und Arzt konsultieren. Auf Kontaktlinsen prüfen und falls vorhanden entfernen.

nach Verschlucken:

Kein Erbrechen herbeiführen. Sofort Arzthilfe zuziehen. Verpackung oder Etikett vorzeigen.

ABSCHNITT 5: Maßnahmen zur Brandbekämpfung**5.1 Löschmittel****Geeignete Löschmittel:**CO₂, Löschpulver oder Wassersprühstrahl. Größeren Brand mit Wassersprühstrahl oder alkoholbeständigem Schaum bekämpfen.**5.2 Besondere vom Stoff oder Gemisch ausgehende Gefahren**

Beim Erhitzen oder im Brandfalle Bildung giftiger Gase möglich.

5.3 Hinweise für die Brandbekämpfung**Besondere Schutzausrüstung:**

Explosions- und Brandgase nicht einatmen.

Atemschutzgerät anlegen.

ABSCHNITT 6: Maßnahmen bei unbeabsichtigter Freisetzung**6.1 Personenbezogene Vorsichtsmaßnahmen, Schutzausrüstungen und in Notfällen anzuwendende Verfahren**

Für ausreichende Lüftung sorgen.

6.2 Umweltschutzmaßnahmen:

Nicht in die Kanalisation/Oberflächenwasser/Grundwasser gelangen lassen.

6.3 Methoden und Material für Rückhaltung und Reinigung:

Kontaminiertes Material als Abfall nach Abschnitt 13 entsorgen.

Mechanisch aufnehmen.

6.4 Verweis auf andere Abschnitte

Informationen zur persönlichen Schutzausrüstung siehe Abschnitt 8.

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ABSCHNITT 7: Handhabung und Lagerung

- **7.1 Schutzmaßnahmen zur sicheren Handhabung**
Für gute Belüftung/Absaugung am Arbeitsplatz sorgen.
Siehe Punkt 8: Persönliche Schutzausrüstung.
- **7.2 Bedingungen zur sicheren Lagerung unter Berücksichtigung von Unverträglichkeiten**
- **Lagerung:**
 - **Anforderung an Lagerräume und Behälter:** Eindringen in den Boden sicher verhindern.
 - **Zusammenlagerungshinweise:** Getrennt von Lebensmitteln lagern.
 - **Weitere Angaben zu den Lagerbedingungen:**
In gut verschlossenen Gebinden kühl und trocken lagern.
Vor Hitze und direkter Sonnenbestrahlung schützen.
- **Lagerklasse LGK gemäß TRGS 510:** 12
- **GISCode** RS10 Verlegewerkstoffe, methoxysilanhaltig, kennzeichnungsfrei (keine Grundierungen)

ABSCHNITT 8: Begrenzung und Überwachung der Exposition/Persönliche Schutzausrüstungen

- **8.1 Zu überwachende Parameter**
 - **Bestandteile mit arbeitsplatzbezogenen, zu überwachenden Grenzwerten:**
 - **CAS-Nr. Bezeichnung des Stoffes % Art Wert Einheit**
 - **Zusätzliche Expositionsgrenzwerte bei möglichen Verarbeitungsgefahren:**
-
- 67-56-1 Methanol**
- AGW Langzeitwert: 130 mg/m³, 100 ml/m³
2(II);DFG, EU, H, Y
- **Zusätzliche Hinweise:** Als Grundlage dienen die bei der Erstellung gültigen Listen.
 - **8.2 Begrenzung und Überwachung der Exposition**
 - **Geeignete technische Steuerungseinrichtungen** Keine weiteren Angaben, siehe Abschnitt 7.
 - **Individuelle Schutzmaßnahmen, zum Beispiel persönliche Schutzausrüstung**
 - **Allgemeine Schutz- und Hygienemaßnahmen:**
Die üblichen Vorsichtsmaßnahmen beim Umgang mit Chemikalien sind zu beachten.
Vor den Pausen und bei Arbeitsende Hände waschen.
Berührung mit den Augen und der Haut vermeiden.
 - **Atemschutz**
Das Produkt nicht bei ungenügender Lüftung verwenden oder Schutzmaske mit entsprechendem Gasfilter (Typ ABEK nach EN 14387) tragen.
 - **Handschutz** Schutzhandschuhe.
 - **Handschuhmaterial**
Die Schutzhandschuhe sollten in jedem Fall auf ihre Arbeitsplatz- spezifische Eignung (z.B. Feinfühligkeit, mechanische Beständigkeit, Produktverträglichkeit, Permeationszeit)geprüft werden. Anweisungen und Informationen der Handschuhhersteller zur Anwendung, Lagerung, Pflege und zum Austausch der Handschuhe befolgen. Die Schutzhandschuhe sollten bei Beschädigung oder ersten Abnutzungserscheinungen sofort ersetzt werden. Die Auswahl eines geeigneten Handschuhs ist nicht nur vom Material, sondern auch von weiteren Qualitätsmerkmalen abhängig und von Hersteller zu Hersteller unterschiedlich. Bezugsnummer EN 374.
Empfohlenes Handschuhmaterial: z.B. Nitrilkautschuk
Empfohlene Materialstärke: > 0,4 mm
 - **Durchdringungszeit des Handschuhmaterials** Durchbruchzeit: 10 - 30 min
 - **Augen-/Gesichtsschutz** Schutzbrille.
 - **Körperschutz:** Arbeitsschutzkleidung.

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ABSCHNITT 9: Physikalische und chemische Eigenschaften

9.1 Angaben zu den grundlegenden physikalischen und chemischen Eigenschaften

· Allgemeine Angaben	
· Aggregatzustand	flüssig
· Farbe	gemäß Produktbezeichnung
· Geruch:	alkoholartig
· Schmelzpunkt/Gefrierpunkt:	nicht anwendbar
· Siedepunkt oder Siedebeginn und Siedebereich	nicht bestimmt
· Untere und obere Explosionsgrenze	
· untere:	entfällt
· obere:	entfällt
· Flammpunkt:	nicht bestimmt
· Zersetzungstemperatur:	Nicht bestimmt.
· pH-Wert:	Nicht bestimmt.
· Viskosität:	Nicht bestimmt.
· Löslichkeit	
· Wasser:	Nicht bestimmt.
· Verteilungskoeffizient n-Oktanol/Wasser (log-Wert)	Nicht bestimmt.
· Dampfdruck:	Nicht bestimmt.
· Dichte und/oder relative Dichte	
· Dichte:	siehe Technisches Datenblatt
· Relative Dichte	Nicht bestimmt.
· Dampfdichte	Nicht anwendbar.
· Partikeleigenschaften	Nicht bestimmt
· 9.2 Sonstige Angaben	
· Form:	pastös
· Zündtemperatur:	Nicht bestimmt.
· Explosive Eigenschaften:	Nicht bestimmt.
· Angaben über physikalische Gefahrenklassen	
· Aerosole	entfällt
· Entzündbare Flüssigkeiten	entfällt

ABSCHNITT 10: Stabilität und Reaktivität

- **10.1 Reaktivität** Keine weiteren relevanten Informationen verfügbar.
- **10.2 Chemische Stabilität**
- **Thermische Zersetzung / zu vermeidende Bedingungen:**
Keine Zersetzung bei bestimmungsgemäßer Verwendung.
Starke Erhitzung vermeiden.
- **10.3 Möglichkeit gefährlicher Reaktionen**
Durch Kontakt mit Luftfeuchtigkeit, Wasser und protische Mittel entsteht Methanol.
- **10.6 Gefährliche Zersetzungsprodukte:** siehe Punkt 5.2

ABSCHNITT 11: Toxikologische Angaben

- **11.1 Angaben zu den Gefahrenklassen im Sinne der Verordnung (EG) Nr. 1272/2008**
- **akute Toxizität:** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Einstufungsrelevante LD/LC50-Werte:**
13822-56-5 3-(Trimethoxysilyl)-propylamin
Oral LD50 2.970 mg/kg (rat)

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Dermal LD50 11.300 mg/kg (rab)

1760-24-3 3-(2-Aminoethylamino)-propyltrimethoxysilan

Oral LD50 2.995 mg/kg (rat)

Dermal LD50 >2.000 mg/kg (rab)

- **Bei Hautkontakt:** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
 - **Bei Augenkontakt:** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
 - **Sensibilisierung der Atemwege/Haut**
Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
 - **Keimzellmutagenität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
 - **Karzinogenität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
 - **Reproduktionstoxizität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
 - **Spezifische Zielorgan-Toxizität bei einmaliger Exposition**
Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
 - **Spezifische Zielorgan-Toxizität bei wiederholter Exposition**
Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
 - **Aspirationsgefahr** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
 - **Sonstige Angaben (zur experimentellen Toxikologie):**
Produkt hydrolysiert unter Bildung von Methanol (CAS-Nr. 67-56-1). Methanol ist giftig beim Einatmen, Verschlucken und Berührung mit der Haut. Methanol schädigt die Organe. Methanol ist leichtentzündlich. Beim Einatmen von Aerosolnebeln können Gesundheitsschäden auftreten.
 - **11.2 Angaben über sonstige Gefahren**
 - **Endokrinschädliche Eigenschaften**
-
- Keiner der Inhaltsstoffe ist enthalten.

ABSCHNITT 12: Umweltbezogene Angaben

- **12.5 Ergebnisse der PBT- und vPvB-Beurteilung**
- **PBT:** Nicht anwendbar.
- **vPvB:** Nicht anwendbar.
- **12.6 Endokrinschädliche Eigenschaften**
Dieses Produkt enthält keine Bestandteile, die gemäß REACH Artikel 57(f) oder der delegierten Verordnung (EU) 2017/2100 der Kommission oder der delegierten Verordnung (EU) 2018/605 der Kommission in Mengen von 0,1 % oder mehr endokrinschädliche Eigenschaften aufweisen.
- **12.7 Andere schädliche Wirkungen**
- **Weitere ökologische Hinweise:**
- **Allgemeine Hinweise:**
Nicht in das Grundwasser, in Gewässer oder in die Kanalisation gelangen lassen.
Wassergefährdungsklasse 1 : schwach wassergefährdend

ABSCHNITT 13: Hinweise zur Entsorgung

- **13.1 Verfahren der Abfallbehandlung**
- **Empfehlung:**
Örtliche behördliche Vorschriften beachten.
Material kann nach der Aushärtung zusammen mit dem Hausmüll oder den Gewerbeabfällen entsorgt werden.
Unverbrauchtes Material (flüssig, pastös) ist als Sonderabfall zu entsorgen.
- **Verpackungen:**
- **Empfehlung:**
Restentleerte Verpackungen können einer Wiederverwertung/Recycling zugeführt werden.
Nicht reinigungsfähige Verpackungen bzw. Verpackungen mit Restinhalten sind wie der Stoff zu entsorgen.

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ABSCHNITT 14: Angaben zum Transport

- **14.1 UN-Nummer oder ID-Nummer**
- **ADR, IMDG, IATA** entfällt
- **14.2 Ordnungsgemäße UN-Versandbezeichnung**
- **ADR, ADN, IMDG, IATA** entfällt
- **14.3 Transportgefahrenklassen**
- **ADR, ADN, IMDG, IATA**
- **Klasse** entfällt
- **14.4 Verpackungsgruppe**
- **ADR, IMDG, IATA** entfällt
- **14.5 Umweltgefahren:** Nicht anwendbar.
- **14.6 Besondere Vorsichtsmaßnahmen für den Verwender** Nicht anwendbar.
- **14.7 Massengutbeförderung auf dem Seeweg gemäß IMO-Instrumenten** Nicht anwendbar.
- **Transport/weitere Angaben:** Kein Gefahrgut nach obigen Verordnungen
- **UN "Model Regulation":** entfällt

ABSCHNITT 15: Rechtsvorschriften

- **15.1 Vorschriften zu Sicherheit, Gesundheits- und Umweltschutz/spezifische Rechtsvorschriften für den Stoff oder das Gemisch**
- **Richtlinie 2012/18/EU**
- **Namentlich aufgeführte gefährliche Stoffe - ANHANG I** Keiner der Inhaltsstoffe ist enthalten.
- **Richtlinie 2011/65/EU zur Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten – Anhang II**
Keiner der Inhaltsstoffe ist enthalten.
- **VERORDNUNG (EU) 2019/1148**
- **Anhang I - BESCHRÄNKTE AUSGANGSSTOFFE FÜR EXPLOSIVSTOFFE (Oberer Konzentrationsgrenzwert für eine Genehmigung nach Artikel 5 Absatz 3)**
Keiner der Inhaltsstoffe ist enthalten.
- **Anhang II - MELDEPFLICHTIGE AUSGANGSSTOFFE FÜR EXPLOSIVSTOFFE**
Keiner der Inhaltsstoffe ist enthalten.
- **Verordnung (EG) Nr. 273/2004 betreffend Drogenausgangsstoffe**
Keiner der Inhaltsstoffe ist enthalten.
- **Verordnung (EG) Nr. 111/2005 zur Festlegung von Vorschriften für die Überwachung des Handels mit Drogenaustauschstoffen zwischen der Gemeinschaft und Drittländern**
Keiner der Inhaltsstoffe ist enthalten.
- **Nationale Vorschriften:**
- **Wassergefährdungsklasse: WGK 1 (Selbsteinstufung VwVwS):** schwach wassergefährdend.
- **Angaben zum internationalen Registrierungsstatus:**

AICS - Australia	gelistet bzw. konform
DSL - Canada	gelistet bzw. konform
IECSC - China	nicht gelistet
ENCs - Japan	gelistet bzw. konform
NZIoC - New Zealand	gelistet bzw. konform
PICCS - Philippines	nicht gelistet
REACH - Europe	gelistet bzw. konform
TCSI- Taiwan	nicht gelistet
ECL - Korea	nicht gelistet
TSCA - USA	gelistet bzw. konform

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- **15.2 Stoffsicherheitsbeurteilung:** Eine Stoffsicherheitsbeurteilung wurde nicht durchgeführt.

ABSCHNITT 16: Sonstige Angaben

Die Angaben stützen sich auf den heutigen Stand unserer Kenntnisse, sie stellen jedoch keine Zusicherung von Produkteigenschaften dar und begründen kein vertragliches Rechtsverhältnis. Dieses Sicherheitsdatenblatt entspricht der Verordnung (EG) Nr. 1907/2006, Artikel 31 in der Fassung der Verordnung (EU) 2020/878.

- **Relevante Sätze**

- H315 Verursacht Hautreizungen.

- H317 Kann allergische Hautreaktionen verursachen.

- H318 Verursacht schwere Augenschäden.

- H332 Gesundheitsschädlich bei Einatmen.

- H411 Giftig für Wasserorganismen, mit langfristiger Wirkung.

- **Datenblatt ausstellender Bereich:** Tel.: 0049- (0)8684- 908- 2363

- **Ansprechpartner:** Tel.: 0049- (0)8684- 908- 2363 (-4300)

- **Datum der Vorgängerversion:** 22.10.2024

- **Versionsnummer der Vorgängerversion:** 2

- **Abkürzungen und Akronyme:**

- ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

- IMDG: International Maritime Code for Dangerous Goods

- IATA: International Air Transport Association

- GHS: Globally Harmonised System of Classification and Labelling of Chemicals

- EINECS: European Inventory of Existing Commercial Chemical Substances

- ELINCS: European List of Notified Chemical Substances

- CAS: Chemical Abstracts Service (division of the American Chemical Society)

- LC50: Lethal concentration, 50 percent

- LD50: Lethal dose, 50 percent

- PBT: Persistent, Bioaccumulative and Toxic

- vPvB: very Persistent and very Bioaccumulative

- Acute Tox. 4: Akute Toxizität – Kategorie 4

- Skin Irrit. 2: Hautreizende/-ätzende Wirkung – Kategorie 2

- Eye Dam. 1: Schwere Augenschädigung/Augenreizung – Kategorie 1

- Skin Sens. 1: Sensibilisierung der Haut – Kategorie 1

- Aquatic Chronic 2: Gewässergefährdend - langfristig gewässergefährdend – Kategorie 2

- *** Daten gegenüber der Vorversion geändert**

Konformitätserklärung für Produkte mit Muster-EPDs

Der Industrieverband Deutsche Bauchemie e.V., in dem Hermann Otto GmbH Mitglied ist, hat sogenannte Muster-Umweltproduktdeklarationen (Muster-EPD) entwickelt und durch das unabhängige Institut Bauen und Umwelt e.V. (IBU) verifizieren lassen.

Diese durch das IBU verifizierten Muster-EPDs wurden von der Deutschen Bauchemie und dem IBU veröffentlicht.

Anhand unserer Produktrezepturen wurde überprüft, ob unsere Produkte durch die Muster-EPD abgedeckt werden.

Mit dieser Erklärung bestätigen wir, dass das Produkt

OTTOCOLL® M 530

von der beigefügten Muster-EPD erfasst wird

Products based on polyurethane or silane-modified polymer, group 1
EPD-FEI-20220021-IBG1-EN

Das heißt, dass die Ökobilanzdaten und die sonstigen Inhalte der beigefügten Muster-EPD auf das oben genannte Produkt zutreffen und für die Bewertung der Nachhaltigkeit von Gebäuden, in denen das oben genannte Produkt verbaut wurde, herangezogen werden können.

Hermann Otto GmbH

Fridolfing, 25.05.2023

ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804+A2

Owner of the Declaration	DBC, EFCC, FEICA, IVK
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-FEI-20220021-IBG1-EN
Issue date	01.06.2022
Valid to	31.05.2027

Products based on polyurethane or silane-modified polymer, group 1

DBC - Deutsche Bauchemie e.V.

EFCC - European Federation for Construction Chemicals

FEICA - Association of the European Adhesive and Sealant Industry

IVK - Industrieverband Klebstoffe e.V.

www.ibu-epd.com | <https://epd-online.com>



ECO PLATFORM

EPD
VERIFIED



1. General Information

DBC - Deutsche Bauchemie e.V.
EFCC - European Federation for Construction Chemicals
FEICA - Association of the European Adhesive and Sealant Industry
IVK - Industrieverband Klebstoffe e.V.

Programme holder

IBU – Institut Bauen und Umwelt e.V.
Hegelplatz 1
10117 Berlin
Germany

Declaration number

EPD-FEI-20220021-IBG1-EN

This declaration is based on the product category rules:

Reaction resin products, 07.2014
(PCR checked and approved by the SVR)

Issue date

01.06.2022

Valid to

31.05.2027

Products based on polyurethane or silane-modified polymer, group 1

Owner of the declaration

DBC, Mainzer Landstr. 55, D-60329 Frankfurt a.M.
EFCC, 172 Boulevard du Triomphe, B-1160 Brussels
FEICA, Rue Belliard 40, B-1040 Brussels
IVK, Völklingerstr. 4, D-40219 Düsseldorf

Declared product / declared unit

1 kg product based on polyurethane or silane-modified polymer; density 1.25 - 1.8 g/cm³

Scope:

This verified EPD entitles the holder to bear the symbol of the Institut Bauen und Umwelt e.V. It exclusively applies for products produced in Europe and for a period of five years from the date of issue. This EPD may be used by members of DBC, EFCC, FEICA and IVK and their members provided it has been proven that the respective product can be represented by this EPD. For this purpose a guideline is available at the secretariats of the four associations. The members of the associations are listed on the respective websites.

The owner of the declaration shall be liable for the underlying information and evidence; the IBU shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

The EPD was created according to the specifications of *EN 15804+A2*. In the following, the standard will be simplified as *EN 15804*.

Verification

The standard *EN 15804* serves as the core PCR
Independent verification of the declaration and data
according to *ISO 14025:2011*

☐ internally ☒ externally

Dipl. Ing. Hans Peters
(chairman of Institut Bauen und Umwelt e.V.)

Dr. Alexander Röder
(Managing Director Institut Bauen und Umwelt e.V.)

Matthias Schulz
(Independent verifier)

2. Product

2.1 Product description/Product definition

This EPD comprises reactive products based on polyurethane (PU) or silane-modified polymer (SMP) with a volatile organic compound (VOC) content ≤ 1 % (VOC definition according to *Decopaint Directive*) and a castor oil/-derivatives content ≤ 10 %. The one- or two-component reactive PU products are manufactured using polyols and isocyanates. Reactive products based on SMP polymers are usually manufactured as a one-component system from polyols and alkoxy silane in a preliminary stage. The aqueous systems consist of (a) dispersion and are crosslinked by a dispersible isocyanate. The products

fulfil manifold, often specific, functions in the construction, furnishing and repair of buildings. The product displaying the highest environmental impacts was used as a representative product for calculating the Life Cycle Assessment results (worst-case approach).

For the placing on the market in the European Union/European Free Trade Association (EU/EFTA) with the exception of Switzerland) products falling under Regulation (EU) No 305/2011 (*CPR*) need a Declaration of Performance taking into consideration either the relevant harmonised European standard or

the European Technical Assessment and the CE marking. For the application and use of the products the respective national provisions apply.

2.2 Application

Products based on polyurethane or silane-modified polymer, group 1, are used for the following applications:

Module 1: Adhesives for parquet and floor coverings

Parquet adhesives in accordance with *EN ISO 17178* for wooden and parquet floors and flooring adhesives in accordance with *EN ISO 22636* for floor coverings

Module 2: Reactive products for protecting and repairing concrete structures

Products for increasing the durability of concrete and reinforced concrete structures as well as for new concrete and for maintenance and repair work (requirements 2.1), products for structural bonding of strengthening materials to an existing concrete structure (requirements 2.2) and products for concrete injection for filling cracks, voids and interstices in concrete (requirements 2.3)

Module 3: Liquid-applied roof waterproofing kits

Reactive products for waterproofing roof constructions which are applied on site

Module 4: Reactive products for liquid-applied bridge deck waterproofing kits

Products for liquid-applied waterproofing for use on concrete bridge decks

Module 5: Screed material, floor screeds and decorative floors

Products for screed/synthetic resin screed for use in floor constructions

Module 6: Reactive products as an adhesive for tiles

Tile adhesives for internal and external tile installations on walls, floors and ceilings

Module 7: Adhesives and sealants

Reactive products for use as:

- Structural and repair adhesives
- Surface and joint sealants

Applications in accordance with the manufacturer's technical documentation/declaration of performance

Module 8: Reactive products for watertight covering kits

Products for waterproofing floors and/or walls in wet rooms inside buildings

Module 9: Reactive products for liquid-applied waterproofing

Liquid applied products for waterproofing of buildings

Module 10: Reactive products for waterproofing and/or for pre-treating mineral substrates

Applications in accordance with the manufacturer's technical documentation

Module 11: Liquid-applied waterproofing membranes for use beneath ceramic tiling

Module 12: One-component foam (OCF)

One component foam in a can is a one-component,

self-expanding, ready to use polyurethane foam used for various construction applications. It consists of a low viscous semi-fluid in a can that leaves the can as a froth and immediately forms a polyurethane foam.

12.1 Window & External Door Sealing & Insulation:

Installing mechanically fixed external windows and doors with an OCF, as part of a system including sealants and tapes

12.2 Door Installation & Fixation:

Fixing interior doors with an OCF

12.3 General Gap Filling:

Filling of regularly and irregularly shaped spaces between at least two surfaces made of typical building materials with a one-component foam (OCF)

Module 13: Sealants for glazing

Two-component reactive sealants are to be used as the second barrier of the structural hermetic seal in insulating glass units.

Module 14: Bonded glazing sealants

One- and two-component reactive sealants are used for the bonding of insulating glass units in the window frame.

2.3 Technical Data

The density of the products is between 1,25 and 1,8 g/cm³, other relevant technical data can be found in the manufacturer's technical documentation.

Module 1: Reactive products as adhesive for parquet and floor coverings

The minimum requirements of *EN ISO 17178* and *EN ISO 22636* must be maintained.

Module 2: Reactive products for protecting and repairing concrete structures

2.1 The requirements on essential characteristics for all intended uses in accordance with *EN 1504-2*, Tables 1 and 5 must be maintained. These are:

- Permeability to CO₂ (*EN 1062-6*)
- Water vapour permeability (*EN ISO 7783-1/-2*)
- Capillary absorption and permeability to water (*EN 1062-3*)
- Adhesive strength by pull-off test (*EN 1542*)

2.2 Essential characteristics for all intended uses in accordance with *EN 1504-4*, Tables 3.1 and 3.2 (manufacturer's declaration of performance)

2.3 Requirements on essential characteristics for all intended uses in accordance with *EN 1504-5*, Table 3:

- Injectability (*EN 1771*)
- Viscosity (*EN ISO 3219*)

Further essential characteristics in accordance with the manufacturer's technical documentation/declaration of performance

Module 3: Liquid-applied roof waterproofing kits

The minimum requirements of *EAD 030350-00-0402* Liquid-applied roof waterproofing kits must be maintained. The essential characteristics are to be specified in accordance with the European Technical Assessment (ETA, specification no.).

Module 4: Reactive products for liquid-applied bridge deck waterproofing kits

The minimum requirements of *ETAG 033* Liquid-applied bridge deck waterproofing kits must be maintained. The essential characteristics are to be specified in accordance with the European Technical Assessment (ETA, specification no.).

Module 5: Screed material, floor screeds and decorative floors

The requirements on essential characteristics according to *EN 13813* 'Screed material and floor screeds – Screed materials – Properties and requirements' must be maintained. For synthetic resin screeds, these are:

- Bond strength (*EN 13892-8*)
- Reaction to fire (*EN 13501-1*)

Further essential characteristics in accordance with the manufacturer's technical documentation/declaration of performance

Module 6: Reactive products as an adhesive for tiles

The requirements on essential characteristics according to *EN 12004*, must be maintained. These are:

- Tensile adhesion strength after dry storage (*EN 12004-2*)
- Tensile adhesion strength after water immersion (*EN 12004-2*)
- Tensile adhesion strength after heat ageing (*EN 12004-2*)
- Tensile adhesion strength after freeze/thaw cycles (*EN 12004-2*)
- Open time: Tensile strength (*EN 12004-2*)

Further essential characteristics in accordance with the manufacturer's technical documentation

Module 7: Adhesives and sealants

Performance characteristics in accordance with the manufacturer's technical documentation / declaration of performance

Module 8: Reactive products for watertight covering kits

The minimum requirements of *EAD 030352-00-0503* Liquid applied watertight covering kits for wet room floors and/or walls must be maintained. The essential characteristics are to be specified in accordance with the European Technical Assessment (ETA, specification no.).

Module 9: Reactive products for liquid-applied waterproofings

The minimum requirements of the test principles regarding the issuing of general building authority test certificates for liquid-applied products for waterproofing of buildings (*PG-FLK*) must be maintained. The characteristics for the proof of usability are to be specified in accordance with the test principles for granting general building authority test certificates for liquid applied polymer products for waterproofing buildings

Module 10: Reactive products for waterproofing and/or for pre-treating mineral substrates

Name	Value	Unit
Density acc. to <i>EN ISO 2811-1</i>	700 - 1800	kg/m ³
Shore hardness A acc. to <i>ISO 48-4</i>	>15	
Shore hardness D acc. to <i>ISO 48-4</i>	>5	
Viscosity acc. to <i>ISO 3219-2</i>	<100	Pas

Other performance characteristics in accordance with the manufacturer's technical documentation/declaration of performance

Module 11: Liquid-applied waterproofing membranes for use beneath ceramic tiling

The minimum requirements on essential characteristics according to *EN 14891* - Liquid applied water-impermeable products for use beneath ceramic tiling - Definitions, specifications and test methods- must be maintained. These are:

- Initial tensile adhesion strength
- Tensile adhesion strength after water contact
- Tensile adhesion strength after heat ageing
- Tensile adhesion strength after freeze-thaw cycles
- Waterproofing
- Crack bridging ability

Module 12: One-Component Foams

Physical data of the one-component foam must be indicated in accordance with the respective product standards; these can include, for example:

12.1 Window & External Door Sealing & Insulation
Tensile Strength *EN 17333-4*, Movement Capability *EN 17333-4*, Curing Pressure *EN 17333-2*, Thermal conductivity *EN 17333-5*, Sound Insulation *EN ISO 717-1*, Post expansion *EN 17333-2*

12.2 Door Installation & Fixation

Shear Strength *EN 17333-4*, Tensile Strength *EN 17333-4*, Compression Strength *EN 17333-4*, Curing pressure *EN 17333-2*

12.3 General Gap Filling

Sagging *EN 17333-3* Other performance characteristics in accordance with the manufacturer's technical documents/declaration of performance.

Module 13: Sealants for glazing

Reactive sealants must comply with *EN 1279-4* Performance characteristics in accordance with the manufacturer's technical documentation/declaration of performance

Module 14: Bonded glazing sealants

Reactive sealants must comply with *RAL-GZ 716* part 2 and *ift-Guideline VE-08/4*. Performance characteristics in accordance with the manufacturer's technical documentation/declaration of performance

2.4 Delivery status

Liquid or pasty in containers made of tinplate or plastic packed in separate or combi-containers for the required mixing ratio. Packages containing one kg of product in different types of containers. Sealants in plastic cartridges and foil packs. Typical container sizes contain 10 to 25 kg of material. For major works, vats containing approx. 200 kg or IBCs (intermediate bulk containers) containing 1 tonne or more are also used. The LCA is based on tinplate, plastic and wood packaging.

2.5 Base materials/Ancillary materials

Products based on polyurethane or silane-modified polymer with a VOC content ≤1 % and a castor oil/-

derivatives content ≤ 10 % usually comprise a reactive polymer and a crosslinking system. The polymer component contains polyether and/or polyester polyols. Crosslinking takes place after installation on site. In the case of two-component systems, this involves the use of pre-polymers and polymers based on typically Methylene diphenyl diisocyanate (MDI), Toluene diisocyanate (TDI), Hexamethylene diisocyanate (HDI) or Isophorone diisocyanate (IPDI). The resin mixing ratio is adjusted according to the stoichiometric requirements. Crosslinking starts directly after the components have been mixed. There are also one-component reactive polymer formulations based on PU or SMP which crosslink in the presence of moisture. They comprise prepolymers based on e.g. MDI, TDI, HDI, IPDI or those with alkoxy-silane groups in the case of SMP formulations. In formulations with aqueous dispersions, dispersible isocyanates are used for crosslinking. The formulations can contain auxiliary materials such as accelerators, catalysts, wetting agents, foam regulators and viscosity regulators for fine-tuning the product features. Typically, the products covered by this EPD contain the following ranges of base materials and auxiliaries:

Polyol component: up to approx. 50 %

Crosslinking component: up to approx. 95 %

SMP component: up to approx. 80 %

Plasticiser: ~ 0-25 %

Additives / Pigments: ~ 0-30 %

Water: ~ 0-60 %

VOC: ≤ 1 % according to the *Decopaint Directive* (mandatory)

Castor oil and derivatives: ≤ 10 % (mandatory)

These ranges are average values and the composition of products complying with the EPD can deviate from these concentration levels in individual cases. More detailed information is available in the respective manufacturer's documentation (e.g. product data sheets).

Note: For companies to declare their products within the scope of this EPD it is not sufficient to simply comply with the product composition shown above.

The application of this EPD is only possible for member companies of DBC, EFCC, FEICA, and IVK member associations and only for specific formulations with a total score below the declared maximum score for a product group according to the associated guidance document.

1. substances from the "Candidate List of Substances of Very High Concern for Authorisation" (SVHC)

If this product contains substances listed in the candidate list (latest version) exceeding 0.1 percentage by mass, the relevant information can be found in the safety data sheet of the relevant product covered by this model EPD.

2. CMR substances in categories 1A and 1B

If this product contains other carcinogenic, mutagenic, reprotoxic (CMR) substances in categories 1A or 1B which are not on the candidate list, exceeding 0.1 percentage by mass, the relevant information can be found in the safety data sheet of the relevant product covered by this model EPD.

3. Biocide products added to the construction product

If this construction product contains biocide products, the active substances, information on the concentration and/or concentration range, the product

type together with information on their hazardous properties are listed in the safety data sheet of the respective product.

2.6 Manufacture

The components of the formulation are usually mixed batch-wise and packaged for delivery.

2.7 Environment and health during manufacturing

As a general rule, no other environmental protection measures other than those specified by law are necessary.

2.8 Product processing/Installation

Products based on polyurethane or silane-modified polymer, are processed by trowelling/knife-coating or rolling, pouring, spraying or injection.

Precautions for safe handling and storage (e.g. air exchange, exhaust ventilation, personal protective measures, precautions required in the handling of isocyanates, conditions for safe storage) must be observed in accordance with the information on the safety data sheet.

2.9 Packaging

A detailed description of packaging is provided in section 2.4. Empty containers and clean foils can be recycled.

2.10 Condition of use

During the use phase, products based on polyurethane or silane-modified polymer are crosslinked and essentially comprise an inert three-dimensional network. They are long-lasting products which protect our buildings in the form of adhesives, coatings or sealants as well as make an essential contribution in retaining their function and long-term value.

2.11 Environment and health during use

Option 1: Products for applications outside indoor areas with permanent stays by people

During use, the reactive products lose their reactive properties and become inert. No risks are known for water, air and soil if the products are used as designated.

Option 2: Products for applications inside indoor areas with permanent stays by people

When used in indoor areas with permanent stays by people, evidence of the emission performance of construction products in contact with indoor air must be submitted according to national requirements (see chapter 7). No further influences by emissions on the environment and health are known.

2.12 Reference service life

Cured products based on polyurethane or silane-modified polymer fulfil manifold, often specific functions in the construction or refurbishment of building structures. They decisively improve the usability of building structures and significantly extend their original service lives. The anticipated reference service life depends on the specific installation situation and the exposure associated with the product. It can be influenced by weathering as well as mechanical or chemical loads.

2.13 Extraordinary effects

Fire

Even without any special fire safety features, cured products based on polyurethane or silane-modified polymer comply with at least the requirements of *EN 13501-1* standard for fire classes E and Efl. In terms of the volumes applied, they have only a marginal influence on the fire performance characteristics (e.g. smoke gas development) of the building structure in which they have been installed. As crosslinked polyurethane systems do not melt or drip, they do not contribute towards spreading fire.

Water

Cured reactive products based on polyurethane or silane-modified polymer are chemically inert and insoluble in water. They are often used to protect building structures from harmful water ingress or the effects of flooding.

Mechanical destruction

Mechanical destruction of cured reactive products based on polyurethane or silane-modified polymer does not lead to any decomposition products which are harmful to the environment or health.

2.14 Re-use phase

According to present knowledge, no environmentally harmful effects are generally anticipated in landfilling, for example, as a result of de-construction and recycling of building materials with adherent

crosslinked products. If the crosslinked products can be removed from construction products without large effort, thermal recovery is a practical recycling variant on account of their energy content. Minor adhesion is not taken into consideration during disposal. It does not interfere with the disposal/recycling of the remaining components/building materials.

2.15 Disposal

Residual material which cannot be used or recycled must be combined at a specified ratio and hardened. Hardened product residue is not special waste. Non-hardened product residue is hazardous waste. Empty, dried containers (free of drops and scraped clean) are directed to the recycling process. Residue must be directed to proper waste disposal taking into consideration the local guidelines. The following waste codes according to the European List of Waste (2000/532/EC) can apply:

Hardened product residue:

European Waste Catalogue (EWC) code 080112 (waste paint and varnish with the exception of that mentioned in 08 01 11)

EWC code 080410 (waste adhesives and sealants other than mentioned in 08 04 09)

2.16 Further information

More information is available on the manufacturer's product or safety data sheets and on the manufacturer's websites or on request. Valuable technical information is also available on the associations' websites.

3. LCA: Calculation rules

3.1 Declared Unit

This EPD refers to the declared unit of 1 kg of product based on polyurethane or silane-modified polymer, group 1; applied into the building with a density of 1.25 - 1.8 g/cm³ in accordance with the *IBU PCR* part B for reaction resin products.

The results of the Life Cycle Assessment provided in this declaration have been selected from the product with the highest environmental impact (worst-case scenario).

Depending on the application, a corresponding conversion factor such as the density to convert volumetric use to mass must be taken into consideration.

The Declaration type is according to *EN 15804*: Cradle to gate with options, modules C1–C3, and module D (A1–A3, C, D) and additional modules.

Declared unit

Name	Value	Unit
Declared unit	1	kg
Gross density	1.25 - 1.8	g/cm ³
Conversion factor to 1 kg	-	-

3.2 System boundary

Modules A1, A2 and A3 are taken into consideration in the LCA:

- A1 Production of preliminary products
- A2 Transport to the plant
- A3 Production incl. provision of energy, production of packaging as well as auxiliaries and consumables and waste treatment

- A4 Transport to site

- A5 Installation, product applied into the building during A5 phase operations and packaging disposal. This stage considers VOC emissions during the installation phase. The declared product does not contain substances in the formulation that directly emit (as) VOC, but VOCs are generated by a chemical reaction that are occurring during this phase. The end of life for the packaging material considered is described below:

- Incineration, for materials like plastic and wood.

- Landfill, for inert material like metals (where used).

- C1-C2-C3-D

The building deconstruction (demolition process) takes place in the C1 module which considers energy production and consumption in terms of diesel and all the emissions connected with the fuel-burning process to run the machines. After the demolition, the product is transported to the end-of-life processing (C2 module) where all the impacts related to the transport processes are considered. For precautionary principle and as a worst-case scenario, thermal treatment is the only end-of-life scenario considered. This is modelled by the incineration process (module C3) where the product ends its life cycle.

Module D accounts for potential benefits that are beyond the defined system boundaries. Credits are generated during the incineration of wastes and related electricity produced that are occurring in the A5 module.

3.3 Estimates and assumptions

For this EPD formulation and production data defined and collected by FEICA were considered. Production

waste was assumed to be disposed of by incineration without credits as a worst-case. An average of steel and plastic containers, and wooden pallets was considered in the LCA.

3.4 Cut-off criteria

All raw materials submitted for the formulations and production data were taken into consideration. The manufacture of machinery, plant and other infrastructure required for the production of the products under review was not taken into consideration in the LCA.

Transport of packaging materials is excluded.

3.5 Background data

Data from the *GaBi* database SP40 (2020) was used as background data.

3.6 Data quality

Representative products were applied for this EPD and the product in the group displaying the highest environmental impact was selected for calculating the

LCA results. The background data sets used are less than 4 years old.

Production data and packaging are based on details provided by the manufacturer. The formulation used for evaluation refers to a specific product.

The data quality of the background data is considered to be good.

3.7 Period under review

Representative formulations are valid for 2021.

3.8 Allocation

Mass allocation has been applied when primary data have been used and implemented into the LCA model.

3.9 Comparability

Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to *EN 15804* and the building context, respectively the product-specific characteristics of performance, are taken into account.

The *GaBi* database SP40 (2020) was used.

4. LCA: Scenarios and additional technical information

Characteristic product properties

Information on biogenic Carbon

The packaging material contains biogenic carbon content which is presented below.

Incineration	1	kg
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Information on describing the biogenic Carbon

Content at factory gate

Name	Value	Unit
Biogenic Carbon Content in product	0	kg C
Biogenic Carbon Content in accompanying packaging	0.016	kg C

Transport to the building site (A4)

Name	Value	Unit
Transport distance	1000	km
Gross weight	34 - 40	t
Payload capacity	27	t

Assembly (A5)

Name	Value	Unit
Other resources for packaging material	0.1	kg
Material loss	0.01	kg

Material loss regards the amount of product not used during the application phase into the building. This amount is 1% of the product, impacts related to the production of this part are charged to the A5 module. This percentage is considered as waste to disposal and impacts of its end of life have been considered in the LCA model and declared in A5.

End of life (C1-C3)

Name	Value	Unit
Collected as mixed construction waste	1	kg

5. LCA: Results

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; ND = MODULE OR INDICATOR NOT DECLARED; MNR = MODULE NOT RELEVANT)

OVERLAP, MNR, MODERATELY RELEVANT																
PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	ND	ND	MNR	MNR	MNR	ND	ND	X	X	X	ND	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 kg of product based on polyurethane or silane modified polymer, group 1

Core Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	D
GWP-total	[kg CO ₂ -Eq.]	4.79E+0	5.27E-2	1.80E-1	2.79E-4	1.24E-2	2.21E+0	-9.50E-1
GWP-fossil	[kg CO ₂ -Eq.]	4.81E+0	5.22E-2	9.38E-2	2.66E-4	1.18E-2	2.21E+0	-9.47E-1
GWP-biogenic	[kg CO ₂ -Eq.]	-3.57E-2	1.52E-4	8.62E-2	1.24E-5	5.42E-4	8.82E-5	-2.23E-3
GWP-luluc	[kg CO ₂ -Eq.]	4.50E-3	4.22E-4	4.84E-5	6.39E-9	2.79E-7	2.08E-5	-6.66E-4
ODP	[kg CFC11-Eq.]	6.76E-9	6.27E-18	6.76E-11	2.84E-20	1.24E-18	2.62E-16	-9.93E-15
AP	[mol H ⁺ -Eq.]	1.02E-2	1.56E-4	1.29E-4	3.60E-6	3.73E-5	1.31E-3	-1.33E-3
EP-freshwater	[kg P-Eq.]	1.93E-5	1.59E-7	1.98E-7	5.75E-11	2.51E-9	4.40E-8	-1.23E-6
EP-marine	[kg N-Eq.]	2.67E-3	6.96E-5	3.50E-5	1.63E-6	1.72E-5	6.31E-4	-3.43E-4
EP-terrestrial	[mol N-Eq.]	2.93E-2	7.80E-4	4.11E-4	1.79E-5	1.89E-4	7.26E-3	-3.68E-3
POCP	[kg NMVOC-Eq.]	9.47E-3	1.38E-4	7.20E-3	4.91E-6	3.39E-5	1.62E-3	-9.87E-4
ADPE	[kg Sb-Eq.]	8.18E-6	3.74E-9	8.22E-8	8.06E-12	3.52E-10	4.65E-9	-1.56E-7
ADPF	[MJ]	1.05E+2	6.94E-1	1.11E+0	3.81E-3	1.66E-1	5.87E-1	-1.61E+1
WDP	[m ³ world-Eq deprived]	1.34E+0	4.66E-4	2.69E-2	5.27E-7	2.30E-5	2.17E-1	-9.86E-2

Caption: GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone photochemical oxidants; ADPE = Abiotic depletion potential for non-fossil resources; ADPF = Abiotic depletion potential for fossil resources; WDP = Water (user) deprivation potential

RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A2: 1 kg of product based on polyurethane or silane modified polymer, group 1

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	D
PERE	[MJ]	6.67E+0	3.90E-2	6.65E-1	1.20E-5	5.25E-4	8.23E-2	-3.52E+0
PERM	[MJ]	5.85E-1	0.00E+0	-5.85E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0
PERT	[MJ]	7.26E+0	3.90E-2	7.99E-2	1.20E-5	5.25E-4	8.23E-2	-3.52E+0
PENRE	[MJ]	8.33E+1	6.95E-1	1.63E+0	3.81E-3	1.67E-1	2.21E+1	-1.61E+1
PENRM	[MJ]	2.20E+1	0.00E+0	-5.20E-1	0.00E+0	0.00E+0	-2.15E+1	0.00E+0
PENRT	[MJ]	1.05E+2	6.95E-1	1.11E+0	3.81E-3	1.67E-1	5.87E-1	-1.61E+1
SM	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
RSF	[MJ]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
NRSF	[MJ]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
FW	[m ³]	4.03E-2	4.52E-5	7.22E-4	2.16E-8	9.41E-7	5.11E-3	-4.08E-3

Caption: PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

RESULTS OF THE LCA – WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2: 1 kg of product based on polyurethane or silane modified polymer, group 1

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	D
HWD	[kg]	1.12E-5	3.23E-8	1.12E-7	3.70E-13	1.62E-11	3.34E-10	-6.41E-9
NHWD	[kg]	1.66E-1	1.06E-4	4.75E-2	3.90E-7	1.70E-5	1.11E-2	-7.44E-3
RWD	[kg]	2.34E-3	8.60E-7	2.54E-5	4.09E-9	1.79E-7	2.37E-5	-1.20E-3
CRU	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
MFR	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
MER	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
EEE	[MJ]	0.00E+0	0.00E+0	2.12E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0
EET	[MJ]	0.00E+0	0.00E+0	3.86E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0

Caption: HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EEE = Exported thermal energy

RESULTS OF THE LCA – additional impact categories according to EN 15804+A2-optional: 1 kg of product based on polyurethane or silane modified polymer, group 1

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	D
PM	[Disease Incidence]	ND	ND	ND	ND	ND	ND	ND
IRP	[kBq U235-Eq.]	ND	ND	ND	ND	ND	ND	ND
ETP-fw	[CTUe]	ND	ND	ND	ND	ND	ND	ND
HTP-c	[CTUh]	ND	ND	ND	ND	ND	ND	ND
HTP-nc	[CTUh]	ND	ND	ND	ND	ND	ND	ND
SQP	[-]	ND	ND	ND	ND	ND	ND	ND
Caption	PM = Potential incidence of disease due to PM emissions; IR = Potential Human exposure efficiency relative to U235; ETP-fw = Potential comparative Toxic Unit for ecosystems; HTP-c = Potential comparative Toxic Unit for humans (cancerogenic); HTP-nc = Potential comparative Toxic Unit for humans (not cancerogenic); SQP = Potential soil quality index							

Potential Human exposure efficiency relative to U235, Disclaimer 1 – This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure or radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, radon and (from) some construction materials is also not measured by this indicator.

ADP minerals & metals, ADP fossil, WDP, ETF-fw, HTP-c, HTP-nc, SQP, Disclaimer 2 – The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

Additional environmental impact indicators (suggested by *EN15804*, table 4) are not declared in the EPD. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high and as there is limited experience with the indicator (see ILCD classification in *EN 15804*, table 5). For this reason, results based on these indicators are not considered suitable for a decision-making process and are thus not declared in the EPD.

6. LCA: Interpretation

The majority of impacts are associated with the production phase (A1-A3). The most significant contribution to the production phase impacts is the upstream production of raw materials as the main driver. Another substantial contributor in the production phase, in the category of Abiotic depletion potential for nonfossil resources (ADPminerals& metals), is the steel sheet used as a packaging material. Emissions associated with the manufacturing of products also have some influence on the Formation potential of tropospheric ozone (POCP) in the production phase. In all EPDs, CO₂ is the most important contributor to Global Warming Potential (GWP). For the Acidification Potential (AP), NO_x and SO₂ contribute the largest share. In some cases, HCl in water also impacts AP due to the use of TiO₂ as a pigment. The majority of life cycle energy consumption takes place during the production phase (A1-A3). Significant contributions to Primary Energy Demand – Non-renewable (PENRT) come from the energy resources used in the production of raw materials. The largest contributor to Primary Energy Demand – Renewable

(PERT) impacts comes from the consumption of renewable energy resources required for the generation and supply of electricity. It should be noted that Primary Energy Demand – Renewable (PERT) generally represents a small percentage of the production phase primary energy demand with the bulk of the demand coming from non-renewable energy resources.

Transportation to the construction site (A4) and the installation process (A5) make a low contribution to all impacts.

The installation phase influences mainly the Photochemical ozone formation indicator, due to the emission of VOC during the operations. These emissions are not directly related to the pre-products in the resins, but they are related to the reaction products between pre-products and air components (water and oxygen).

The end-of-life phases influence climate change indicators, due to the incineration processes occurring in the C3 module, the process used for modelling the thermal treatment process of the resin.

7. Requisite evidence

VOC

Special tests and evidence have not been carried out or provided within the framework of drawing up this Model EPD. Some member states require special documentation on VOC emissions into indoor air for specific areas of application. This documentation, as well as documentation for voluntary VOC labelling, has to be provided separately and is specific for product in question.

Evidence pertaining to VOC emissions shall show

- either an attestation of compliance with,
- or documentation of test data that are required in

any of the existing regulations or in any of the existing voluntary labelling programs for low-emitting products, as far as these

(1) include limits for the parameters TVOC, TSVOC, carcinogens, formaldehyde, acetaldehyde, LCI limits for individual substances (including but not limited to the European list of harmonized LCIs), and the R value;

(2) base their test methods on *EN 16516*;

(3) perform testing and apply the limits after 28 days of storage in a ventilated test chamber, under the conditions specified in *EN 16516*; some regulations

and programs also have limits after 3 days, on top of the 28 days limits;
(4) express the test results as air concentrations in the European Reference Room, as specified in EN 16516.

Examples of such regulations are the *Belgian Royal Decree C-2014/24239*, or the *German AgBB/ABG*. Examples of such voluntary labelling programs are *EMICODE*, *Blue Angel* or *Indoor Air Comfort*.

Relevant test results shall be produced either by an ISO 17025 accredited commercial test lab or by a qualified internal test lab of the manufacturer. Examples for the applied limits after 28 days of storage in a ventilated test chamber are:

- TVOC: 1000 µg/m³

- TSVOC: 100 µg/m³
- Each carcinogen: 1 µg/m³
- Formaldehyde: 100 µg/m³
- LCI: different per substance involved
- R value: 1 (meaning that, in total, 100 % of the combined LCI values must not be exceeded).

Informative Annexes (2 tables):

Table 1 shown below is an overview of the most relevant regulations and specifications as of October 2021, as regards requirements after 3 days of storage in a ventilated test chamber.

Table 2 provides an overview of the most relevant regulations and specifications as of October 2021, as regards requirements after 28 days of storage in a ventilated test chamber. Some details may be missing in the table due to lack of space. Values given represent maximum values/limits.

	TVOC µg/m ³	Sum of carcinogens. C1A,CA2 µg/m ³	Formaldehyde µg/m ³	Acetaldehyde µg/m ³	Sum of Form- and Acetaldehyde
German AgBB/ABG regulation	10 000	10	-/-	-/-	-/-
Belgian regulation	10 000	10	-/-	-/-	-/-
EMICODE EC1	1 000	10	50	50	50 ppb
EMICODE EC1 ^{PLUS}	750	10	50	50	50 ppb

	TVOC µg/m ³	TSVOC µg/m ³	Each carcinogen C1A,CA2 µg/m ³	Formalde- hyde µg/m ³	Acetalde- hyde µg/m ³	LCI	R value	Specials	Sum of non-LCI & non- identified µg/m ³
Belgian regulation	1000	100	1	100	200	Belgian list	1	Toluene 300 µg/m ³	-/-
French regulations class A+	1000	-/-	-/-	10	200	-/-	-/-	List of 8 VOCs, 4 CMR	-/-
French regulations class A	1500	-/-	-/-	60	300	-/-	-/-	List of 8 VOCs, 4 CMR	-/-
French regulations class B	2000	-/-	-/-	120	400	-/-	-/-	List of 8 VOCs, 4 CMR	-/-
French regulations class C	>2000	-/-	-/-	>120	>400	-/-	-/-	List of 8 VOCs, 4 CMR	-/-
German DIBt/AgBB regulation	1000	100	1	100	300	German AgBB list	1	-/-	100
EMICODE EC1	100	50	1	(after 3 days)	(after 3 days)	-/-	-/-	-/-	-/-
EMICODE EC1 ^{PLUS}	60	40	1	(after 3 days)	(after 3 days)	German AgBB list	1	-/-	40
Finnish M1, sealants	20	-/-	1	10	300	EU LCI list	-/-	Ammonia, odour	-/-
Finnish M1, adhesives	200 µg/m ² h	-/-	5 µg/m ² h	50 µg/m ² h	300	EU LCI list	-/-	Ammonia, odour	-/-

8. References

ETAG 033

Liquid applied bridge deck waterproofing kits

ISO 48-4

ISO 48-4:2018, Rubber, vulcanized or thermoplastic - Determination of hardness- Part 4: Indentation hardness by durometer method (Shore hardness)

EN ISO 717-1

EN ISO 717-1:2020 Acoustics - Rating of sound insulation in buildings and of building elements - Part 1: Airborne sound insulation

EN 1062-3

EN 1062-3:2008-04, Paints and varnishes - Coating materials and coating systems for exterior masonry and concrete - Part 3: Determination of liquid water permeability

EN 1062-6

EN 1062-6:2002-10, Paints and varnishes - Coating materials and coating systems for exterior masonry and concrete - Part 6: Determination of carbon dioxide permeability

EN 1279-4

EN 1279-4:2002 Glass in building - Insulating glass units - Part 4: Methods of test for the physical attributes of edge seals

EN 1504-2

EN 1504-2:2004-12, Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 2: Surface protection systems for concrete

EN 1504-4

EN 1504-4:2004-11, Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 4: Structural bonding

EN 1504-5

EN 1504-5:2004-12, Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 5: Concrete injection

EN 1542

EN 1542:1999-07, Products and systems for the protection and repair of concrete structures - Test methods - Measurement of bond strength by pull-off

EN 1771

EN 1771:2004-11, Products and systems for the protection and repair of concrete structures - Test methods - Determination of injectability and splitting test

ISO 2811-1

ISO 2811-1:2016, Paints and varnishes - Determination of density - Part 1: Pycnometer method

EN ISO 3219

EN ISO 3219:1994-10, Plastics - Polymers/resins in the liquid state or as emulsions or dispersions - Determination of viscosity using a rotational viscometer with defined shear rate

ISO 3219-2

ISO 3219-2:2021, Rheology - Part 2: General principles of rotational and oscillatory rheometry

EN ISO 7783

EN ISO 7783:2019-02, Paints and varnishes - Determination of water-vapour transmission properties - Cup method

EN 12004

EN12004:2012, Adhesives for ceramic tiles

EN 12004-1

EN 12004-1:2017, Adhesives for ceramic tiles – Part 1: Requirements, assessment and verification of constancy of performance, classification and marking

EN 12004-2

EN 12004-2:2017, Adhesives for ceramic tiles - Part 2: Test methods

EN 13501-1

EN 13501-1:2018, Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests

EN 13813

EN 13813:2002-10, Screed material and floor screeds - Screed materials - Properties and requirements

EN 13892-8

EN 13892:2003-02, Methods of test for screed materials - Part 8: Determination of bond strength

ISO 14025

DIN EN ISO 14025:2011-10, Environmental labels and declarations — Type III environmental declarations — Principles and procedures

EN 14891

EN 14891:2012-04, Liquid applied water impermeable products for use beneath ceramic tiling - Definitions, specifications and test methods

EN 15804

EN 15804:2019+A2, Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products

EN 16516

EN 16516:2017 Construction products - Assessment of release of dangerous substances - Determination of emissions into indoor air

EN ISO 17025

EN ISO 17025:2018-03 General requirements for the competence of testing and calibration laboratories

EN ISO 17178

EN ISO 17178:2020-06, Adhesives - Adhesives for bonding parquet to subfloor - Test methods and minimum requirements

EN 17333-2

EN 17333-2:2020+AC:2020, Characterisation of one component foam - Part 2: Expansion characteristics

EN 17333-3

EN 17333-3:2020, Characterisation of one component foam - Part 3: Application

EN 17333-4

EN 17333-4:2020, Characterisation of one component foam - Part 4: Mechanical strength

EN 17333-5

EN 17333-5:2020, Characterisation of one component foam - Part 5: Insulation

EN ISO 22636

EN ISO 22636:2020, Adhesives - Adhesives for floor coverings - Requirements for mechanical and electrical performance

EAD 030350-00-0402

EAD 030350-00-0402:2018-08, Liquid Applied Roof Waterproofing Kits

EAD 030352-00-0503

EAD 030352-00-0503:2019-01, Liquid applied watertight covering kits for wet room floors and/or walls

2000/532/EC

Commission decision dated 3 May 2000 replacing decision 94/3/EC on a waste directory in accordance with Article 1 a) of Council Directive 75/442/EEC on waste and Council decision 94/904/EC on a directory of hazardous waste in terms of Article 1, paragraph 4 of Directive 91/689/EEC on hazardous waste

Belgian Royal Decree C-2014/24239

Belgisch Staatsblad 8 MEI 2014, p. 60603. — Koninklijk besluit tot vaststelling van de drempelniveaus voor de emissies naar het binnenmilieu van bouwproducten voor bepaalde geogede gebruiken

Blue Angel

Environmental label organised by the federal government of Germany www.blauer-engel.de

CPR

CPR Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC

Decopaint Directive

Directive 2004/42/CE of the European Parliament and the council of 21 April 2004 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC

EMICODE

EMICODE, GEV – Gemeinschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e. V. (pub.) www.emicode.de

GaBi 10 software & documentation

Data base for Life Cycle Engineering LBP, University of Stuttgart and Sphera, documentation of GaBi 10

data sets <http://documentation.gabi-software.com/>, 2020

German AgBB

Committee for Health-related Evaluation of Building Products: health-related evaluation of emissions of volatile organic compounds (VOC and SVOC) from building products; status: June 2012 www.umweltbundesamt.de/produkte/bauprodukte/agbb.htm

IBU 2021

Institut Bauen und Umwelt e.V.: General Instructions for the EPD programme of Institut Bauen und Umwelt e.V. EPD programme. Version 2.0. Berlin: Institut Bauen und Umwelt e.V., 2021 www.ibu-epd.com

ift-Guideline VE-08/4

ift-Guideline VE-08/4:2017, Beurteilungsgrundlage für geklebte Verglasungssysteme

Indoor Air Comfort

Product certification by Eurofins, Hamburg, Germany www.eurofins.com

PCR Part A

Product Category Rules for Building-Related Products and Services, Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Project report, Version 1.1, Institut Bauen und Umwelt e.V., 2021-01

PCR Part B

Product Category Rules for Construction Products, Part B: Reaction resin products, Institut Bauen und Umwelt e.V., 2019-01

RAL-GZ 716

RAL-GZ 716:2019-04 part 2, Kunststoff-Fensterprofilsysteme - Gütesicherung

REACH

Directive (EG) No. 1907/2006 of the European Parliament and of the Council dated 18 December 2006 on the registration, evaluation, approval and restriction of chemical substances (REACH), for establishing a European Agency for chemical substances, for amending Directive 1999/45/EC and for annulment of Directive (EEC) No. 793/93 of the Council, Directive (EC) No. 1488/94 of the Commission, Guideline 76/769/EEC of the Council and Guidelines 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC of the Commission.

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Declaration of conformity for products with Model EPDs

The Association of Deutsche Bauchemie e.V., of which Hermann Otto GmbH is a member, has developed so-called Model Environmental Product Declarations (Model EPDs) and had them independently verified by the Institut Bauen und Umwelt e.V. (IBU).

These IBU verified Model EPDs have been made publicly available by Deutsch Bauchemie and IBU.

Based on the product formulations it was checked if our products were covered by the Model EPDs.

This Declaration confirms that the product

OTTOCOLL® M 530

is covered by the attached Model EPD

Products based on polyurethane or silane-modified polymer, group 1
EPD-FEI-20220021-IBG1-EN

This means that the Life Cycle Assessment data and the remaining content of the attached Model EPD apply to the above mentioned product and may thus be used for the evaluation of the sustainability of buildings where the product is applied.

Hermann Otto GmbH

Fridolfing, 25.05.2023

ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804+A2

Owner of the Declaration	DBC, EFCC, FEICA, IVK
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-FEI-20220021-IBG1-EN
Issue date	01.06.2022
Valid to	31.05.2027

Products based on polyurethane or silane-modified polymer, group 1

DBC - Deutsche Bauchemie e.V.

EFCC - European Federation for Construction Chemicals

FEICA - Association of the European Adhesive and Sealant Industry

IVK - Industrieverband Klebstoffe e.V.

www.ibu-epd.com | <https://epd-online.com>



ECO PLATFORM

EPD
VERIFIED



1. General Information

DBC - Deutsche Bauchemie e.V.
EFCC - European Federation for Construction Chemicals
FEICA - Association of the European Adhesive and Sealant Industry
IVK - Industrieverband Klebstoffe e.V.

Programme holder

IBU – Institut Bauen und Umwelt e.V.
Hegelplatz 1
10117 Berlin
Germany

Declaration number

EPD-FEI-20220021-IBG1-EN

This declaration is based on the product category rules:

Reaction resin products, 07.2014
(PCR checked and approved by the SVR)

Issue date

01.06.2022

Valid to

31.05.2027

Products based on polyurethane or silane-modified polymer, group 1

Owner of the declaration

DBC, Mainzer Landstr. 55, D-60329 Frankfurt a.M.
EFCC, 172 Boulevard du Triomphe, B-1160 Brussels
FEICA, Rue Belliard 40, B-1040 Brussels
IVK, Völklingerstr. 4, D-40219 Düsseldorf

Declared product / declared unit

1 kg product based on polyurethane or silane-modified polymer; density 1.25 - 1.8 g/cm³

Scope:

This verified EPD entitles the holder to bear the symbol of the Institut Bauen und Umwelt e.V. It exclusively applies for products produced in Europe and for a period of five years from the date of issue. This EPD may be used by members of DBC, EFCC, FEICA and IVK and their members provided it has been proven that the respective product can be represented by this EPD. For this purpose a guideline is available at the secretariats of the four associations. The members of the associations are listed on the respective websites.

The owner of the declaration shall be liable for the underlying information and evidence; the IBU shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

The EPD was created according to the specifications of *EN 15804+A2*. In the following, the standard will be simplified as *EN 15804*.

Verification

The standard *EN 15804* serves as the core PCR
Independent verification of the declaration and data
according to *ISO 14025:2011*

☐ internally ☒ externally

Dipl. Ing. Hans Peters
(chairman of Institut Bauen und Umwelt e.V.)

Dr. Alexander Röder
(Managing Director Institut Bauen und Umwelt e.V.)

Matthias Schulz
(Independent verifier)

2. Product

2.1 Product description/Product definition

This EPD comprises reactive products based on polyurethane (PU) or silane-modified polymer (SMP) with a volatile organic compound (VOC) content ≤ 1 % (VOC definition according to *Decopaint Directive*) and a castor oil/-derivatives content ≤ 10 %. The one- or two-component reactive PU products are manufactured using polyols and isocyanates. Reactive products based on SMP polymers are usually manufactured as a one-component system from polyols and alkoxy silane in a preliminary stage. The aqueous systems consist of (a) dispersion and are crosslinked by a dispersible isocyanate. The products

fulfil manifold, often specific, functions in the construction, furnishing and repair of buildings. The product displaying the highest environmental impacts was used as a representative product for calculating the Life Cycle Assessment results (worst-case approach).

For the placing on the market in the European Union/European Free Trade Association (EU/EFTA) with the exception of Switzerland) products falling under Regulation (EU) No 305/2011 (*CPR*) need a Declaration of Performance taking into consideration either the relevant harmonised European standard or

the European Technical Assessment and the CE marking. For the application and use of the products the respective national provisions apply.

2.2 Application

Products based on polyurethane or silane-modified polymer, group 1, are used for the following applications:

Module 1: Adhesives for parquet and floor coverings

Parquet adhesives in accordance with *EN ISO 17178* for wooden and parquet floors and flooring adhesives in accordance with *EN ISO 22636* for floor coverings

Module 2: Reactive products for protecting and repairing concrete structures

Products for increasing the durability of concrete and reinforced concrete structures as well as for new concrete and for maintenance and repair work (requirements 2.1), products for structural bonding of strengthening materials to an existing concrete structure (requirements 2.2) and products for concrete injection for filling cracks, voids and interstices in concrete (requirements 2.3)

Module 3: Liquid-applied roof waterproofing kits

Reactive products for waterproofing roof constructions which are applied on site

Module 4: Reactive products for liquid-applied bridge deck waterproofing kits

Products for liquid-applied waterproofing for use on concrete bridge decks

Module 5: Screed material, floor screeds and decorative floors

Products for screed/synthetic resin screed for use in floor constructions

Module 6: Reactive products as an adhesive for tiles

Tile adhesives for internal and external tile installations on walls, floors and ceilings

Module 7: Adhesives and sealants

Reactive products for use as:

- Structural and repair adhesives
- Surface and joint sealants

Applications in accordance with the manufacturer's technical documentation/declaration of performance

Module 8: Reactive products for watertight covering kits

Products for waterproofing floors and/or walls in wet rooms inside buildings

Module 9: Reactive products for liquid-applied waterproofing

Liquid applied products for waterproofing of buildings

Module 10: Reactive products for waterproofing and/or for pre-treating mineral substrates

Applications in accordance with the manufacturer's technical documentation

Module 11: Liquid-applied waterproofing membranes for use beneath ceramic tiling

Module 12: One-component foam (OCF)

One component foam in a can is a one-component,

self-expanding, ready to use polyurethane foam used for various construction applications. It consists of a low viscous semi-fluid in a can that leaves the can as a froth and immediately forms a polyurethane foam.

12.1 Window & External Door Sealing & Insulation: Installing mechanically fixed external windows and doors with an OCF, as part of a system including sealants and tapes

12.2 Door Installation & Fixation:

Fixing interior doors with an OCF

12.3 General Gap Filling:

Filling of regularly and irregularly shaped spaces between at least two surfaces made of typical building materials with a one-component foam (OCF)

Module 13: Sealants for glazing

Two-component reactive sealants are to be used as the second barrier of the structural hermetic seal in insulating glass units.

Module 14: Bonded glazing sealants

One- and two-component reactive sealants are used for the bonding of insulating glass units in the window frame.

2.3 Technical Data

The density of the products is between 1,25 and 1,8 g/cm³, other relevant technical data can be found in the manufacturer's technical documentation.

Module 1: Reactive products as adhesive for parquet and floor coverings

The minimum requirements of *EN ISO 17178* and *EN ISO 22636* must be maintained.

Module 2: Reactive products for protecting and repairing concrete structures

2.1 The requirements on essential characteristics for all intended uses in accordance with *EN 1504-2*, Tables 1 and 5 must be maintained. These are:

- Permeability to CO₂ (*EN 1062-6*)
- Water vapour permeability (*EN ISO 7783-1/-2*)
- Capillary absorption and permeability to water (*EN 1062-3*)
- Adhesive strength by pull-off test (*EN 1542*)

2.2 Essential characteristics for all intended uses in accordance with *EN 1504-4*, Tables 3.1 and 3.2 (manufacturer's declaration of performance)

2.3 Requirements on essential characteristics for all intended uses in accordance with *EN 1504-5*, Table 3:

- Injectability (*EN 1771*)
- Viscosity (*EN ISO 3219*)

Further essential characteristics in accordance with the manufacturer's technical documentation/declaration of performance

Module 3: Liquid-applied roof waterproofing kits

The minimum requirements of *EAD 030350-00-0402* Liquid-applied roof waterproofing kits must be maintained. The essential characteristics are to be specified in accordance with the European Technical Assessment (ETA, specification no.).

Module 4: Reactive products for liquid-applied bridge deck waterproofing kits

The minimum requirements of *ETAG 033* Liquid-applied bridge deck waterproofing kits must be maintained. The essential characteristics are to be specified in accordance with the European Technical Assessment (ETA, specification no.).

Module 5: Screed material, floor screeds and decorative floors

The requirements on essential characteristics according to *EN 13813* 'Screed material and floor screeds – Screed materials – Properties and requirements' must be maintained. For synthetic resin screeds, these are:

- Bond strength (*EN 13892-8*)
- Reaction to fire (*EN 13501-1*)

Further essential characteristics in accordance with the manufacturer's technical documentation/declaration of performance

Module 6: Reactive products as an adhesive for tiles

The requirements on essential characteristics according to *EN 12004*, must be maintained. These are:

- Tensile adhesion strength after dry storage (*EN 12004-2*)
- Tensile adhesion strength after water immersion (*EN 12004-2*)
- Tensile adhesion strength after heat ageing (*EN 12004-2*)
- Tensile adhesion strength after freeze/thaw cycles (*EN 12004-2*)
- Open time: Tensile strength (*EN 12004-2*)

Further essential characteristics in accordance with the manufacturer's technical documentation

Module 7: Adhesives and sealants

Performance characteristics in accordance with the manufacturer's technical documentation / declaration of performance

Module 8: Reactive products for watertight covering kits

The minimum requirements of *EAD 030352-00-0503* Liquid applied watertight covering kits for wet room floors and/or walls must be maintained. The essential characteristics are to be specified in accordance with the European Technical Assessment (ETA, specification no.).

Module 9: Reactive products for liquid-applied waterproofings

The minimum requirements of the test principles regarding the issuing of general building authority test certificates for liquid-applied products for waterproofing of buildings (*PG-FLK*) must be maintained. The characteristics for the proof of usability are to be specified in accordance with the test principles for granting general building authority test certificates for liquid applied polymer products for waterproofing buildings

Module 10: Reactive products for waterproofing and/or for pre-treating mineral substrates

Name	Value	Unit
Density acc. to <i>EN ISO 2811-1</i>	700 - 1800	kg/m ³
Shore hardness A acc. to <i>ISO 48-4</i>	>15	
Shore hardness D acc. to <i>ISO 48-4</i>	>5	
Viscosity acc. to <i>ISO 3219-2</i>	<100	Pas

Other performance characteristics in accordance with the manufacturer's technical documentation/declaration of performance

Module 11: Liquid-applied waterproofing membranes for use beneath ceramic tiling

The minimum requirements on essential characteristics according to *EN 14891* - Liquid applied water-impermeable products for use beneath ceramic tiling - Definitions, specifications and test methods- must be maintained. These are:

- Initial tensile adhesion strength
- Tensile adhesion strength after water contact
- Tensile adhesion strength after heat ageing
- Tensile adhesion strength after freeze-thaw cycles
- Waterproofing
- Crack bridging ability

Module 12: One-Component Foams

Physical data of the one-component foam must be indicated in accordance with the respective product standards; these can include, for example:

12.1 Window & External Door Sealing & Insulation
Tensile Strength *EN 17333-4*, Movement Capability *EN 17333-4*, Curing Pressure *EN 17333-2*, Thermal conductivity *EN 17333-5*, Sound Insulation *EN ISO 717-1*, Post expansion *EN 17333-2*

12.2 Door Installation & Fixation

Shear Strength *EN 17333-4*, Tensile Strength *EN 17333-4*, Compression Strength *EN 17333-4*, Curing pressure *EN 17333-2*

12.3 General Gap Filling

Sagging *EN 17333-3* Other performance characteristics in accordance with the manufacturer's technical documents/declaration of performance.

Module 13: Sealants for glazing

Reactive sealants must comply with *EN 1279-4* Performance characteristics in accordance with the manufacturer's technical documentation/declaration of performance

Module 14: Bonded glazing sealants

Reactive sealants must comply with *RAL-GZ 716* part 2 and *ift-Guideline VE-08/4*. Performance characteristics in accordance with the manufacturer's technical documentation/declaration of performance

2.4 Delivery status

Liquid or pasty in containers made of tinplate or plastic packed in separate or combi-containers for the required mixing ratio. Packages containing one kg of product in different types of containers. Sealants in plastic cartridges and foil packs. Typical container sizes contain 10 to 25 kg of material. For major works, vats containing approx. 200 kg or IBCs (intermediate bulk containers) containing 1 tonne or more are also used. The LCA is based on tinplate, plastic and wood packaging.

2.5 Base materials/Ancillary materials

Products based on polyurethane or silane-modified polymer with a VOC content ≤1 % and a castor oil/-

derivatives content ≤ 10 % usually comprise a reactive polymer and a crosslinking system. The polymer component contains polyether and/or polyester polyols. Crosslinking takes place after installation on site. In the case of two-component systems, this involves the use of pre-polymers and polymers based on typically Methylene diphenyl diisocyanate (MDI), Toluene diisocyanate (TDI), Hexamethylene diisocyanate (HDI) or Isophorone diisocyanate (IPDI). The resin mixing ratio is adjusted according to the stoichiometric requirements. Crosslinking starts directly after the components have been mixed. There are also one-component reactive polymer formulations based on PU or SMP which crosslink in the presence of moisture. They comprise prepolymers based on e.g. MDI, TDI, HDI, IPDI or those with alkoxy-silane groups in the case of SMP formulations. In formulations with aqueous dispersions, dispersible isocyanates are used for crosslinking. The formulations can contain auxiliary materials such as accelerators, catalysts, wetting agents, foam regulators and viscosity regulators for fine-tuning the product features. Typically, the products covered by this EPD contain the following ranges of base materials and auxiliaries:

Polyol component: up to approx. 50 %

Crosslinking component: up to approx. 95 %

SMP component: up to approx. 80 %

Plasticiser: ~ 0-25 %

Additives / Pigments: ~ 0-30 %

Water: ~ 0-60 %

VOC: ≤ 1 % according to the *Decopaint Directive* (mandatory)

Castor oil and derivatives: ≤ 10 % (mandatory)

These ranges are average values and the composition of products complying with the EPD can deviate from these concentration levels in individual cases. More detailed information is available in the respective manufacturer's documentation (e.g. product data sheets).

Note: For companies to declare their products within the scope of this EPD it is not sufficient to simply comply with the product composition shown above.

The application of this EPD is only possible for member companies of DBC, EFCC, FEICA, and IVK member associations and only for specific formulations with a total score below the declared maximum score for a product group according to the associated guidance document.

1. substances from the "Candidate List of Substances of Very High Concern for Authorisation" (SVHC)

If this product contains substances listed in the candidate list (latest version) exceeding 0.1 percentage by mass, the relevant information can be found in the safety data sheet of the relevant product covered by this model EPD.

2. CMR substances in categories 1A and 1B

If this product contains other carcinogenic, mutagenic, reprotoxic (CMR) substances in categories 1A or 1B which are not on the candidate list, exceeding 0.1 percentage by mass, the relevant information can be found in the safety data sheet of the relevant product covered by this model EPD.

3. Biocide products added to the construction product

If this construction product contains biocide products, the active substances, information on the concentration and/or concentration range, the product

type together with information on their hazardous properties are listed in the safety data sheet of the respective product.

2.6 Manufacture

The components of the formulation are usually mixed batch-wise and packaged for delivery.

2.7 Environment and health during manufacturing

As a general rule, no other environmental protection measures other than those specified by law are necessary.

2.8 Product processing/Installation

Products based on polyurethane or silane-modified polymer, are processed by trowelling/knife-coating or rolling, pouring, spraying or injection.

Precautions for safe handling and storage (e.g. air exchange, exhaust ventilation, personal protective measures, precautions required in the handling of isocyanates, conditions for safe storage) must be observed in accordance with the information on the safety data sheet.

2.9 Packaging

A detailed description of packaging is provided in section 2.4. Empty containers and clean foils can be recycled.

2.10 Condition of use

During the use phase, products based on polyurethane or silane-modified polymer are crosslinked and essentially comprise an inert three-dimensional network. They are long-lasting products which protect our buildings in the form of adhesives, coatings or sealants as well as make an essential contribution in retaining their function and long-term value.

2.11 Environment and health during use

Option 1: Products for applications outside indoor areas with permanent stays by people

During use, the reactive products lose their reactive properties and become inert. No risks are known for water, air and soil if the products are used as designated.

Option 2: Products for applications inside indoor areas with permanent stays by people

When used in indoor areas with permanent stays by people, evidence of the emission performance of construction products in contact with indoor air must be submitted according to national requirements (see chapter 7). No further influences by emissions on the environment and health are known.

2.12 Reference service life

Cured products based on polyurethane or silane-modified polymer fulfil manifold, often specific functions in the construction or refurbishment of building structures. They decisively improve the usability of building structures and significantly extend their original service lives. The anticipated reference service life depends on the specific installation situation and the exposure associated with the product. It can be influenced by weathering as well as mechanical or chemical loads.

2.13 Extraordinary effects

Fire

Even without any special fire safety features, cured products based on polyurethane or silane-modified polymer comply with at least the requirements of *EN 13501-1* standard for fire classes E and Efl. In terms of the volumes applied, they have only a marginal influence on the fire performance characteristics (e.g. smoke gas development) of the building structure in which they have been installed. As crosslinked polyurethane systems do not melt or drip, they do not contribute towards spreading fire.

Water

Cured reactive products based on polyurethane or silane-modified polymer are chemically inert and insoluble in water. They are often used to protect building structures from harmful water ingress or the effects of flooding.

Mechanical destruction

Mechanical destruction of cured reactive products based on polyurethane or silane-modified polymer does not lead to any decomposition products which are harmful to the environment or health.

2.14 Re-use phase

According to present knowledge, no environmentally harmful effects are generally anticipated in landfilling, for example, as a result of de-construction and recycling of building materials with adherent

crosslinked products. If the crosslinked products can be removed from construction products without large effort, thermal recovery is a practical recycling variant on account of their energy content. Minor adhesion is not taken into consideration during disposal. It does not interfere with the disposal/recycling of the remaining components/building materials.

2.15 Disposal

Residual material which cannot be used or recycled must be combined at a specified ratio and hardened. Hardened product residue is not special waste. Non-hardened product residue is hazardous waste. Empty, dried containers (free of drops and scraped clean) are directed to the recycling process. Residue must be directed to proper waste disposal taking into consideration the local guidelines. The following waste codes according to the European List of Waste (2000/532/EC) can apply:

Hardened product residue:

European Waste Catalogue (EWC) code 080112 (waste paint and varnish with the exception of that mentioned in 08 01 11)

EWC code 080410 (waste adhesives and sealants other than mentioned in 08 04 09)

2.16 Further information

More information is available on the manufacturer's product or safety data sheets and on the manufacturer's websites or on request. Valuable technical information is also available on the associations' websites.

3. LCA: Calculation rules

3.1 Declared Unit

This EPD refers to the declared unit of 1 kg of product based on polyurethane or silane-modified polymer, group 1; applied into the building with a density of 1.25 - 1.8 g/cm³ in accordance with the *IBU PCR* part B for reaction resin products.

The results of the Life Cycle Assessment provided in this declaration have been selected from the product with the highest environmental impact (worst-case scenario).

Depending on the application, a corresponding conversion factor such as the density to convert volumetric use to mass must be taken into consideration.

The Declaration type is according to *EN 15804*: Cradle to gate with options, modules C1–C3, and module D (A1–A3, C, D) and additional modules.

Declared unit

Name	Value	Unit
Declared unit	1	kg
Gross density	1.25 - 1.8	g/cm ³
Conversion factor to 1 kg	-	-

3.2 System boundary

Modules A1, A2 and A3 are taken into consideration in the LCA:

- A1 Production of preliminary products
- A2 Transport to the plant
- A3 Production incl. provision of energy, production of packaging as well as auxiliaries and consumables and waste treatment

- A4 Transport to site

- A5 Installation, product applied into the building during A5 phase operations and packaging disposal. This stage considers VOC emissions during the installation phase. The declared product does not contain substances in the formulation that directly emit (as) VOC, but VOCs are generated by a chemical reaction that are occurring during this phase. The end of life for the packaging material considered is described below:

- Incineration, for materials like plastic and wood.
- Landfill, for inert material like metals (where used).

-C1-C2-C3-D

The building deconstruction (demolition process) takes place in the C1 module which considers energy production and consumption in terms of diesel and all the emissions connected with the fuel-burning process to run the machines. After the demolition, the product is transported to the end-of-life processing (C2 module) where all the impacts related to the transport processes are considered. For precautionary principle and as a worst-case scenario, thermal treatment is the only end-of-life scenario considered. This is modelled by the incineration process (module C3) where the product ends its life cycle.

Module D accounts for potential benefits that are beyond the defined system boundaries. Credits are generated during the incineration of wastes and related electricity produced that are occurring in the A5 module.

3.3 Estimates and assumptions

For this EPD formulation and production data defined and collected by FEICA were considered. Production

waste was assumed to be disposed of by incineration without credits as a worst-case. An average of steel and plastic containers, and wooden pallets was considered in the LCA.

3.4 Cut-off criteria

All raw materials submitted for the formulations and production data were taken into consideration. The manufacture of machinery, plant and other infrastructure required for the production of the products under review was not taken into consideration in the LCA.

Transport of packaging materials is excluded.

3.5 Background data

Data from the *GaBi* database SP40 (2020) was used as background data.

3.6 Data quality

Representative products were applied for this EPD and the product in the group displaying the highest environmental impact was selected for calculating the

LCA results. The background data sets used are less than 4 years old.

Production data and packaging are based on details provided by the manufacturer. The formulation used for evaluation refers to a specific product.

The data quality of the background data is considered to be good.

3.7 Period under review

Representative formulations are valid for 2021.

3.8 Allocation

Mass allocation has been applied when primary data have been used and implemented into the LCA model.

3.9 Comparability

Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to *EN 15804* and the building context, respectively the product-specific characteristics of performance, are taken into account.

The *GaBi* database SP40 (2020) was used.

4. LCA: Scenarios and additional technical information

Characteristic product properties

Information on biogenic Carbon

The packaging material contains biogenic carbon content which is presented below.

Incineration	1	kg
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Information on describing the biogenic Carbon Content at factory gate

Name	Value	Unit
Biogenic Carbon Content in product	0	kg C
Biogenic Carbon Content in accompanying packaging	0.016	kg C

Transport to the building site (A4)

Name	Value	Unit
Transport distance	1000	km
Gross weight	34 - 40	t
Payload capacity	27	t

Assembly (A5)

Name	Value	Unit
Other resources for packaging material	0.1	kg
Material loss	0.01	kg

Material loss regards the amount of product not used during the application phase into the building. This amount is 1% of the product, impacts related to the production of this part are charged to the A5 module. This percentage is considered as waste to disposal and impacts of its end of life have been considered in the LCA model and declared in A5.

End of life (C1-C3)

Name	Value	Unit
Collected as mixed construction waste	1	kg

5. LCA: Results

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; ND = MODULE OR INDICATOR NOT DECLARED; MNR = MODULE NOT RELEVANT)

OVERLAP, MNR, MODERATELY RELEVANT																
PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	ND	ND	MNR	MNR	MNR	ND	ND	X	X	X	ND	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 kg of product based on polyurethane or silane modified polymer, group 1

Core Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	D
GWP-total	[kg CO ₂ -Eq.]	4.79E+0	5.27E-2	1.80E-1	2.79E-4	1.24E-2	2.21E+0	-9.50E-1
GWP-fossil	[kg CO ₂ -Eq.]	4.81E+0	5.22E-2	9.38E-2	2.66E-4	1.18E-2	2.21E+0	-9.47E-1
GWP-biogenic	[kg CO ₂ -Eq.]	-3.57E-2	1.52E-4	8.62E-2	1.24E-5	5.42E-4	8.82E-5	-2.23E-3
GWP-luluc	[kg CO ₂ -Eq.]	4.50E-3	4.22E-4	4.84E-5	6.39E-9	2.79E-7	2.08E-5	-6.66E-4
ODP	[kg CFC11-Eq.]	6.76E-9	6.27E-18	6.76E-11	2.84E-20	1.24E-18	2.62E-16	-9.93E-15
AP	[mol H ⁺ -Eq.]	1.02E-2	1.56E-4	1.29E-4	3.60E-6	3.73E-5	1.31E-3	-1.33E-3
EP-freshwater	[kg P-Eq.]	1.93E-5	1.59E-7	1.98E-7	5.75E-11	2.51E-9	4.40E-8	-1.23E-6
EP-marine	[kg N-Eq.]	2.67E-3	6.96E-5	3.50E-5	1.63E-6	1.72E-5	6.31E-4	-3.43E-4
EP-terrestrial	[mol N-Eq.]	2.93E-2	7.80E-4	4.11E-4	1.79E-5	1.89E-4	7.26E-3	-3.68E-3
POCP	[kg NMVOC-Eq.]	9.47E-3	1.38E-4	7.20E-3	4.91E-6	3.39E-5	1.62E-3	-9.87E-4
ADPE	[kg Sb-Eq.]	8.18E-6	3.74E-9	8.22E-8	8.06E-12	3.52E-10	4.65E-9	-1.56E-7
ADPF	[MJ]	1.05E+2	6.94E-1	1.11E+0	3.81E-3	1.66E-1	5.87E-1	-1.61E+1
WDP	[m ³ world-Eq deprived]	1.34E+0	4.66E-4	2.69E-2	5.27E-7	2.30E-5	2.17E-1	-9.86E-2

Caption: GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone photochemical oxidants; ADPE = Abiotic depletion potential for non-fossil resources; ADPF = Abiotic depletion potential for fossil resources; WDP = Water (user) deprivation potential

RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A2: 1 kg of product based on polyurethane or silane modified polymer, group 1

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	D
PERE	[MJ]	6.67E+0	3.90E-2	6.65E-1	1.20E-5	5.25E-4	8.23E-2	-3.52E+0
PERM	[MJ]	5.85E-1	0.00E+0	-5.85E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0
PERT	[MJ]	7.26E+0	3.90E-2	7.99E-2	1.20E-5	5.25E-4	8.23E-2	-3.52E+0
PENRE	[MJ]	8.33E+1	6.95E-1	1.63E+0	3.81E-3	1.67E-1	2.21E+1	-1.61E+1
PENRM	[MJ]	2.20E+1	0.00E+0	-5.20E-1	0.00E+0	0.00E+0	-2.15E+1	0.00E+0
PENRT	[MJ]	1.05E+2	6.95E-1	1.11E+0	3.81E-3	1.67E-1	5.87E-1	-1.61E+1
SM	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
RSF	[MJ]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
NRSF	[MJ]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
FW	[m ³]	4.03E-2	4.52E-5	7.22E-4	2.16E-8	9.41E-7	5.11E-3	-4.08E-3

Caption: PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

RESULTS OF THE LCA – WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2: 1 kg of product based on polyurethane or silane modified polymer, group 1

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	D
HWD	[kg]	1.12E-5	3.23E-8	1.12E-7	3.70E-13	1.62E-11	3.34E-10	-6.41E-9
NHWD	[kg]	1.66E-1	1.06E-4	4.75E-2	3.90E-7	1.70E-5	1.11E-2	-7.44E-3
RWD	[kg]	2.34E-3	8.60E-7	2.54E-5	4.09E-9	1.79E-7	2.37E-5	-1.20E-3
CRU	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
MFR	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
MER	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
EEE	[MJ]	0.00E+0	0.00E+0	2.12E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0
EET	[MJ]	0.00E+0	0.00E+0	3.86E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0

Caption: HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EEE = Exported thermal energy

RESULTS OF THE LCA – additional impact categories according to EN 15804+A2-optional: 1 kg of product based on polyurethane or silane modified polymer, group 1

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	D
PM	[Disease Incidence]	ND	ND	ND	ND	ND	ND	ND
IRP	[kBq U235-Eq.]	ND	ND	ND	ND	ND	ND	ND
ETP-fw	[CTUe]	ND	ND	ND	ND	ND	ND	ND
HTP-c	[CTUh]	ND	ND	ND	ND	ND	ND	ND
HTP-nc	[CTUh]	ND	ND	ND	ND	ND	ND	ND
SQP	[-]	ND	ND	ND	ND	ND	ND	ND
Caption	PM = Potential incidence of disease due to PM emissions; IR = Potential Human exposure efficiency relative to U235; ETP-fw = Potential comparative Toxic Unit for ecosystems; HTP-c = Potential comparative Toxic Unit for humans (cancerogenic); HTP-nc = Potential comparative Toxic Unit for humans (not cancerogenic); SQP = Potential soil quality index							

Potential Human exposure efficiency relative to U235, Disclaimer 1 – This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure or radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, radon and (from) some construction materials is also not measured by this indicator.

ADP minerals & metals, ADP fossil, WDP, ETF-fw, HTP-c, HTP-nc, SQP, Disclaimer 2 – The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

Additional environmental impact indicators (suggested by *EN15804*, table 4) are not declared in the EPD. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high and as there is limited experience with the indicator (see ILCD classification in *EN 15804*, table 5). For this reason, results based on these indicators are not considered suitable for a decision-making process and are thus not declared in the EPD.

6. LCA: Interpretation

The majority of impacts are associated with the production phase (A1-A3). The most significant contribution to the production phase impacts is the upstream production of raw materials as the main driver. Another substantial contributor in the production phase, in the category of Abiotic depletion potential for nonfossil resources (ADPminerals& metals), is the steel sheet used as a packaging material. Emissions associated with the manufacturing of products also have some influence on the Formation potential of tropospheric ozone (POCP) in the production phase. In all EPDs, CO₂ is the most important contributor to Global Warming Potential (GWP). For the Acidification Potential (AP), NO_x and SO₂ contribute the largest share. In some cases, HCl in water also impacts AP due to the use of TiO₂ as a pigment. The majority of life cycle energy consumption takes place during the production phase (A1-A3). Significant contributions to Primary Energy Demand – Non-renewable (PENRT) come from the energy resources used in the production of raw materials. The largest contributor to Primary Energy Demand – Renewable

(PERT) impacts comes from the consumption of renewable energy resources required for the generation and supply of electricity. It should be noted that Primary Energy Demand – Renewable (PERT) generally represents a small percentage of the production phase primary energy demand with the bulk of the demand coming from non-renewable energy resources.

Transportation to the construction site (A4) and the installation process (A5) make a low contribution to all impacts.

The installation phase influences mainly the Photochemical ozone formation indicator, due to the emission of VOC during the operations. These emissions are not directly related to the pre-products in the resins, but they are related to the reaction products between pre-products and air components (water and oxygen).

The end-of-life phases influence climate change indicators, due to the incineration processes occurring in the C3 module, the process used for modelling the thermal treatment process of the resin.

7. Requisite evidence

VOC

Special tests and evidence have not been carried out or provided within the framework of drawing up this Model EPD. Some member states require special documentation on VOC emissions into indoor air for specific areas of application. This documentation, as well as documentation for voluntary VOC labelling, has to be provided separately and is specific for product in question.

Evidence pertaining to VOC emissions shall show

- either an attestation of compliance with,
- or documentation of test data that are required in

any of the existing regulations or in any of the existing voluntary labelling programs for low-emitting products, as far as these

- (1) include limits for the parameters TVOC, TSVOC, carcinogens, formaldehyde, acetaldehyde, LCI limits for individual substances (including but not limited to the European list of harmonized LCIs), and the R value;
- (2) base their test methods on *EN 16516*;
- (3) perform testing and apply the limits after 28 days of storage in a ventilated test chamber, under the conditions specified in *EN 16516*; some regulations

and programs also have limits after 3 days, on top of the 28 days limits;
(4) express the test results as air concentrations in the European Reference Room, as specified in EN 16516.

Examples of such regulations are the *Belgian Royal Decree C-2014/24239*, or the *German AgBB/ABG*. Examples of such voluntary labelling programs are *EMICODE*, *Blue Angel* or *Indoor Air Comfort*.

Relevant test results shall be produced either by an ISO 17025 accredited commercial test lab or by a qualified internal test lab of the manufacturer. Examples for the applied limits after 28 days of storage in a ventilated test chamber are:

- TVOC: 1000 µg/m³

- TSVOC: 100 µg/m³
- Each carcinogen: 1 µg/m³
- Formaldehyde: 100 µg/m³
- LCI: different per substance involved
- R value: 1 (meaning that, in total, 100 % of the combined LCI values must not be exceeded).

Informative Annexes (2 tables):

Table 1 shown below is an overview of the most relevant regulations and specifications as of October 2021, as regards requirements after 3 days of storage in a ventilated test chamber.

Table 2 provides an overview of the most relevant regulations and specifications as of October 2021, as regards requirements after 28 days of storage in a ventilated test chamber. Some details may be missing in the table due to lack of space. Values given represent maximum values/limits.

	TVOC µg/m ³	Sum of carcinogens. C1A,CA2 µg/m ³	Formaldehyde µg/m ³	Acetaldehyde µg/m ³	Sum of Form- and Acetaldehyde
German AgBB/ABG regulation	10 000	10	-/-	-/-	-/-
Belgian regulation	10 000	10	-/-	-/-	-/-
EMICODE EC1	1 000	10	50	50	50 ppb
EMICODE EC1 ^{PLUS}	750	10	50	50	50 ppb

	TVOC µg/m ³	TSVOC µg/m ³	Each carcinogen C1A,CA2 µg/m ³	Formalde- hyde µg/m ³	Acetalde- hyde µg/m ³	LCI	R value	Specials	Sum of non-LCI & non- identified µg/m ³
Belgian regulation	1000	100	1	100	200	Belgian list	1	Toluene 300 µg/m ³	-/-
French regulations class A+	1000	-/-	-/-	10	200	-/-	-/-	List of 8 VOCs, 4 CMR	-/-
French regulations class A	1500	-/-	-/-	60	300	-/-	-/-	List of 8 VOCs, 4 CMR	-/-
French regulations class B	2000	-/-	-/-	120	400	-/-	-/-	List of 8 VOCs, 4 CMR	-/-
French regulations class C	>2000	-/-	-/-	>120	>400	-/-	-/-	List of 8 VOCs, 4 CMR	-/-
German DIBt/AgBB regulation	1000	100	1	100	300	German AgBB list	1	-/-	100
EMICODE EC1	100	50	1	(after 3 days)	(after 3 days)	-/-	-/-	-/-	-/-
EMICODE EC1 ^{PLUS}	60	40	1	(after 3 days)	(after 3 days)	German AgBB list	1	-/-	40
Finnish M1, sealants	20	-/-	1	10	300	EU LCI list	-/-	Ammonia, odour	-/-
Finnish M1, adhesives	200 µg/m ² h	-/-	5 µg/m ² h	50 µg/m ² h	300	EU LCI list	-/-	Ammonia, odour	-/-

8. References

ETAG 033

Liquid applied bridge deck waterproofing kits

ISO 48-4

ISO 48-4:2018, Rubber, vulcanized or thermoplastic - Determination of hardness- Part 4: Indentation hardness by durometer method (Shore hardness)

EN ISO 717-1

EN ISO 717-1:2020 Acoustics - Rating of sound insulation in buildings and of building elements - Part 1: Airborne sound insulation

EN 1062-3

EN 1062-3:2008-04, Paints and varnishes - Coating materials and coating systems for exterior masonry and concrete - Part 3: Determination of liquid water permeability

EN 1062-6

EN 1062-6:2002-10, Paints and varnishes - Coating materials and coating systems for exterior masonry and concrete - Part 6: Determination of carbon dioxide permeability

EN 1279-4

EN 1279-4:2002 Glass in building - Insulating glass units - Part 4: Methods of test for the physical attributes of edge seals

EN 1504-2

EN 1504-2:2004-12, Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 2: Surface protection systems for concrete

EN 1504-4

EN 1504-4:2004-11, Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 4: Structural bonding

EN 1504-5

EN 1504-5:2004-12, Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 5: Concrete injection

EN 1542

EN 1542:1999-07, Products and systems for the protection and repair of concrete structures - Test methods - Measurement of bond strength by pull-off

EN 1771

EN 1771:2004-11, Products and systems for the protection and repair of concrete structures - Test methods - Determination of injectability and splitting test

ISO 2811-1

ISO 2811-1:2016, Paints and varnishes - Determination of density - Part 1: Pycnometer method

EN ISO 3219

EN ISO 3219:1994-10, Plastics - Polymers/resins in the liquid state or as emulsions or dispersions - Determination of viscosity using a rotational viscometer with defined shear rate

ISO 3219-2

ISO 3219-2:2021, Rheology - Part 2: General principles of rotational and oscillatory rheometry

EN ISO 7783

EN ISO 7783:2019-02, Paints and varnishes - Determination of water-vapour transmission properties - Cup method

EN 12004

EN12004:2012, Adhesives for ceramic tiles

EN 12004-1

EN 12004-1:2017, Adhesives for ceramic tiles – Part 1: Requirements, assessment and verification of constancy of performance, classification and marking

EN 12004-2

EN 12004-2:2017, Adhesives for ceramic tiles - Part 2: Test methods

EN 13501-1

EN 13501-1:2018, Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests

EN 13813

EN 13813:2002-10, Screed material and floor screeds - Screed materials - Properties and requirements

EN 13892-8

EN 13892:2003-02, Methods of test for screed materials - Part 8: Determination of bond strength

ISO 14025

DIN EN ISO 14025:2011-10, Environmental labels and declarations — Type III environmental declarations — Principles and procedures

EN 14891

EN 14891:2012-04, Liquid applied water impermeable products for use beneath ceramic tiling - Definitions, specifications and test methods

EN 15804

EN 15804:2019+A2, Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products

EN 16516

EN 16516:2017 Construction products - Assessment of release of dangerous substances - Determination of emissions into indoor air

EN ISO 17025

EN ISO 17025:2018-03 General requirements for the competence of testing and calibration laboratories

EN ISO 17178

EN ISO 17178:2020-06, Adhesives - Adhesives for bonding parquet to subfloor - Test methods and minimum requirements

EN 17333-2

EN 17333-2:2020+AC:2020, Characterisation of one component foam - Part 2: Expansion characteristics

EN 17333-3

EN 17333-3:2020, Characterisation of one component foam - Part 3: Application

EN 17333-4

EN 17333-4:2020, Characterisation of one component foam - Part 4: Mechanical strength

EN 17333-5

EN 17333-5:2020, Characterisation of one component foam - Part 5: Insulation

EN ISO 22636

EN ISO 22636:2020, Adhesives - Adhesives for floor coverings - Requirements for mechanical and electrical performance

EAD 030350-00-0402

EAD 030350-00-0402:2018-08, Liquid Applied Roof Waterproofing Kits

EAD 030352-00-0503

EAD 030352-00-0503:2019-01, Liquid applied watertight covering kits for wet room floors and/or walls

2000/532/EC

Commission decision dated 3 May 2000 replacing decision 94/3/EC on a waste directory in accordance with Article 1 a) of Council Directive 75/442/EEC on waste and Council decision 94/904/EC on a directory of hazardous waste in terms of Article 1, paragraph 4 of Directive 91/689/EEC on hazardous waste

Belgian Royal Decree C-2014/24239

Belgisch Staatsblad 8 MEI 2014, p. 60603. — Koninklijk besluit tot vaststelling van de drempelniveaus voor de emissies naar het binnenmilieu van bouwproducten voor bepaalde geogede gebruiken

Blue Angel

Environmental label organised by the federal government of Germany www.blauer-engel.de

CPR

CPR Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC

Decopaint Directive

Directive 2004/42/CE of the European Parliament and the council of 21 April 2004 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC

EMICODE

EMICODE, GEV – Gemeinschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe und Bauprodukte e. V. (pub.) www.emicode.de

GaBi 10 software & documentation

Data base for Life Cycle Engineering LBP, University of Stuttgart and Sphera, documentation of GaBi 10

data sets <http://documentation.gabi-software.com/>, 2020

German AgBB

Committee for Health-related Evaluation of Building Products: health-related evaluation of emissions of volatile organic compounds (VOC and SVOC) from building products; status: June 2012 www.umweltbundesamt.de/produkte/bauprodukte/agbb.htm

IBU 2021

Institut Bauen und Umwelt e.V.: General Instructions for the EPD programme of Institut Bauen und Umwelt e.V. EPD programme. Version 2.0. Berlin: Institut Bauen und Umwelt e.V., 2021 www.ibu-epd.com

ift-Guideline VE-08/4

ift-Guideline VE-08/4:2017, Beurteilungsgrundlage für geklebte Verglasungssysteme

Indoor Air Comfort

Product certification by Eurofins, Hamburg, Germany www.eurofins.com

PCR Part A

Product Category Rules for Building-Related Products and Services, Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Project report, Version 1.1, Institut Bauen und Umwelt e.V., 2021-01

PCR Part B

Product Category Rules for Construction Products, Part B: Reaction resin products, Institut Bauen und Umwelt e.V., 2019-01

RAL-GZ 716

RAL-GZ 716:2019-04 part 2, Kunststoff-Fensterprofilsysteme - Gütesicherung

REACH

Directive (EG) No. 1907/2006 of the European Parliament and of the Council dated 18 December 2006 on the registration, evaluation, approval and restriction of chemical substances (REACH), for establishing a European Agency for chemical substances, for amending Directive 1999/45/EC and for annulment of Directive (EEC) No. 793/93 of the Council, Directive (EC) No. 1488/94 of the Commission, Guideline 76/769/EEC of the Council and Guidelines 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC of the Commission.

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OTTOCOLL® M 530

HiSpeed

Nachhaltigkeitsdatenblatt

Prüfungen/Zulassungen



- EMICODE® EC 1^{PLUS} – sehr emissionsarm



- Französische VOC-Emissionsklasse A+



- Deklaration in Baubook Österreich

Informationen unter: www.baubook.info

- Umweltproduktdeklaration (EPD)

Deklarationsnummer: EPD-FEI-20220021-IBG1-EN

Gebäudezertifizierungssysteme

QNG - Qualitätssiegel Nachhaltiges Gebäude

Version 1.3

Kriterium	Schadstoffvermeidung in Baumaterialien
Übersichtstabelle	4. Kleb- und Dichtstoffe - Zeile 4.2
Bauproduktgruppe	Bauseitig verarbeitete Kleb- und Dichtstoffe auf Basis von PU-, PU-Hybrid- und SMP-Rezepturen (silanmodifizierte Polymere) in Innenräumen
Anforderungen	Produktdokumentation und Deklaration enthaltener SVHC >0,1 % und Chlorparaffine, TCEP, PBB und PBDE ≤0,1 % und lösemittelfrei oder GISCODE PU10, PU20, PU40 (ALT) bzw. PU50 (ALT)
Einstufung	Erfüllt die Anforderungen, da Deklaration enthaltener SVHC >0,1 % und Chlorparaffine, TCEP, PBB und PBDE ≤0,1 % und lösemittelfrei.

DGNB – Deutsche Gesellschaft für Nachhaltiges Bauen**Version 2023**

Kriterium	ENV 1.2 Risiken für die lokale Umwelt	
Kriterienmatrix	Zeile 11	
Produkttyp	Dichtungsmassen, Dichtstoffe, Klebstoffe für punkt- und linienförmige Verklebungen von Bauteilen im Innenraum: - mechanisch belastete Fugen - Sockelleisten - Türschienen - Stützenkleber (Doppel- oder Hohlboden) - Lüftungskanäle Gemeint sind Acrylklebstoffe/-kleber, Silikondichtstoffe, PU-Kleber und silanmodifizierte Polymere (SMP)	
Anforderungen	Qualitätsstufe 1 (niedrig)	GISCODE PU10, PU20, RS10, DA20, DSE20, DSA20, DSO20 oder DH20 und Bonuspunkte SVHC ≤0,1 %
	Qualitätsstufe 2	GISCODE PU10, PU20, RS10, DA20, DSE20, DSA20, DSO20 oder DH20 und Bonuspunkte SVHC ≤0,1 %
	Qualitätsstufe 3	GISCODE PU10, PU20, RS10, DA20, DSE20, DSA20, DSO20 oder DH20 und EMICODE® EC 1 ^{PLUS} und Bonuspunkte SVHC ≤0,1 %
	Qualitätsstufe 4 (hoch)	GISCODE PU10, PU20, RS10, DA20, DSE20, DSA20, DSO20 oder DH20 und EMICODE® EC 1 ^{PLUS} und Bonuspunkte SVHC ≤0,1 %
Einstufung	Erfüllt die Anforderungen an Qualitätsstufe 4, da GISCODE RS10 und EMICODE® EC 1^{PLUS} und SVHC ≤0,1 %.	

DGNB – Deutsche Gesellschaft für Nachhaltiges Bauen**Version 2018**

Kriterium	ENV 1.2 Risiken für die lokale Umwelt	
Kriterienmatrix	Zeile 11	
Produkttyp	Dichtungsmassen, Dichtstoffe, Klebstoffe für punkt- und linienförmige Verklebungen von Bauteilen im Innenraum. Gemeint sind PU-Kleber und silanmodifizierte Polymere (SMP).	
Anforderungen	Qualitätsstufe 1 (niedrig)	GISCODE PU20 oder RS10
	Qualitätsstufe 2	GISCODE PU20 oder RS10
	Qualitätsstufe 3	GISCODE PU20 oder RS10 und EMICODE® EC 1 oder EC 1 ^{PLUS}
	Qualitätsstufe 4 (hoch)	GISCODE PU20 oder RS10 und EMICODE® EC 1 oder EC 1 ^{PLUS}
Einstufung	Erfüllt die Anforderungen an Qualitätsstufe 4, da GISCODE RS10 und EMICODE® EC 1^{PLUS}.	

DGNB – Deutsche Gesellschaft für Nachhaltiges Bauen**Version 2018**

Kriterium	ENV 1.2 Risiken für die lokale Umwelt	
Kriterienmatrix	Zeile 12	
Produkttyp	Dichtungsmassen, Dichtstoffe, Klebstoffe für punkt- und linienförmige Verklebungen von Bauteilen im Innenraum und Lüftungskanälen im Gebäudeinneren. Gemeint sind Acrylatdichtstoffe/-kleber, Silikondichtstoffe und SMP-(Hybrid-Dichtstoffe).	
Anforderungen	Qualitätsstufe 1 (niedrig)	–
	Qualitätsstufe 2	Keine im SDB deklarierten Chlorparaffine
	Qualitätsstufe 3	Chlorparaffine <0,1 %
	Qualitätsstufe 4 (hoch)	Chlorparaffine <0,1 %, Lösemittel < 1 % und KWS-Weichmacher <0,1 %
Einstufung	Erfüllt die Anforderungen an Qualitätsstufe 4, da Chlorparaffine <0,1 %, Lösemittel < 1 % und KWS-Weichmacher <0,1 %.	

Kriterium	1.1.6 Risiken für die lokale Umwelt	
Übersichtstabelle	6. Kleb- und Dichtstoffe – Zeile 8	
Bauprodukttyp	Kleb- und Dichtstoffe aus PU, SMP (silanmodifizierte Polymere), Acrylat (einschließlich Dispersionsklebstoffe) oder Silikon für punkt- und linienförmige Verklebungen und Abdichtungen im Innenraum inkl. TGA.	
Anforderungen	Qualitätsniveau 1 (niedrig)	Dokumentation, Deklaration enthaltener SVHC >0,1 % und Deklaration biozider Wirkstoffe (sofern eingesetzt).
	Qualitätsniveau 2	Deklaration biozider Wirkstoffe (sofern eingesetzt) und Deklaration enthaltener SVHC >0,1 % und Chlorparaffine <0,1 %. Für PU-Klebstoffe gilt zusätzlich: GISCODE PU10 oder PU20 und TCEP <0,1 %.
	Qualitätsniveau 3	Deklaration biozider Wirkstoffe (sofern eingesetzt) und Deklaration enthaltener SVHC >0,1 % und Chlorparaffine <0,1 %. Für PU-Klebstoffe gilt zusätzlich: GISCODE PU10 oder PU20 und TCEP <0,1 %.
	Qualitätsniveau 4	Keine amin- oder oximvernetzenden Silikone. Zusätzlich gilt: RAL-UZ 123 oder EMICODE® EC 1/EC 1 ^{PLUS} und Chlorparaffine <0,1 % und Deklaration biozider Wirkstoffe (sofern eingesetzt) und Deklaration enthaltener SVHC >0,1 %. Für PU-Klebstoffe gilt zusätzlich: TCEP <0,1 %.
	Qualitätsniveau 5 (hoch)	Keine amin- oder oximvernetzenden Silikone. Zusätzlich gilt: RAL-UZ 123 oder EMICODE® EC 1/EC 1 ^{PLUS} und Chlorparaffine <0,1 % und Deklaration biozider Wirkstoffe (sofern eingesetzt) und Deklaration enthaltener SVHC >0,1 %. Für PU-Klebstoffe gilt zusätzlich: TCEP <0,1 %.
Einstufung	Erfüllt die Anforderungen an Qualitätsniveau 5, da kein amin- oder oximvernetzendes Silikon und EMICODE® EC1^{PLUS} und Deklaration der bioziden Wirkstoffe (sofern eingesetzt) und Deklaration enthaltener SVHC >0,1 % und Chlorparaffine <0,1 %.	
Dokumentationsunterlagen	Alle aufgeführten Dokumente stehen auf www.otto-chemie.de zum Download bereit	
	1. Technisches Datenblatt 2. Sicherheitsdatenblatt 3. Nachhaltigkeitsdatenblatt 4. Prüfzeugnisse 5. Umweltproduktdeklaration	

Diese Angaben basieren auf unserem Wissen zum Zeitpunkt der Erstellung (siehe unten). Die aktuelle Version ist auf unserer Website unter www.otto-chemie.de einsehbar. Darüber hinaus gelten die Angaben in den produktbegleitenden Dokumenten.

Lizenzerteilung zur Führung des EMICODE

Lizenzierungs-Nummer: 12749/10.10.13
Für den Artikel OTTOCOLL® M530 HiSpeed
der Firma Hermann Otto GmbH
wird auf Antrag vom 10.12.2020

unter Bezugnahme auf die Einstufung gemäß den nach § 10 der
GEV-Zeichensatzung festgelegten Richtlinien

namens der Gemeinschaft Emissionskontrollierte Verlegewerkstoffe, Klebstoffe
und Bauprodukte e.V. für den oben genannten Artikel nach § 5 Abs. 4 der GEV-
Zeichensatzung die Lizenz zur Führung des GEV-Zeichens



erteilt. Damit erfüllt dieser Artikel die rückseitig aufgeführten Kriterien.
Die Firma ist ordentliches Mitglied der GEV.

OM098 11.12.2025
gültig bis 11.12.2030

Der Geschäftsführer
Gemeinschaft Emissionskontrollierte Verlegewerkstoffe,
Klebstoffe und Bauprodukte e.V.
Völklinger Straße 4 · D-40219 Düsseldorf

Hinweise zu den Voraussetzungen über die Vergabe der Lizenz für den EMICODE

Das gemäß vorseitiger Lizenz eingestufte Produkt hat nach der Satzung und den Richtlinien des Technischen Beirats der GEV u.a. den folgenden Kriterien zu genügen:

- Das Produkt entspricht allen gesetzlichen Bestimmungen, insbesondere denen des Chemikalienrechtes und seiner Verordnungen.
- Das Produkt ist nach der Definition der TRGS 610 lösemittelfrei, sofern es sich nicht um ein Oberflächenprodukt handelt. Soweit es einer Produktgruppe nach GISCODE zuzuordnen ist, wird diese angegeben.
- Für das Produkt wird ein Sicherheitsdatenblatt nach lokalem Recht in der jeweils aktuellen Fassung erstellt.
- Krebserregende, erbgutverändernde oder fruchtschädigende Stoffe der Kategorien 1A und 1B werden dem Produkt bei der Herstellung nicht aktiv zugesetzt (Ausnahmeregelungen siehe Kapitel 3.1.2.2 der GEV-Einstufungskriterien).
- Die Prüfung des Produktes erfolgt nach der definierten „GEV-Prüfmethode“. Die VOC-Bestimmung wird dabei in einer Prüfkammer nach dem Tenax-Thermodesorptions-Verfahren mit nachgeschalteter GC/MS-Analyse durchgeführt.
- Die Einstufung in EMICODE-Klassen erfolgt entsprechend den nachstehenden Bezeichnungen und TVOC/TSVOC-Konzentrationsbereichen. Zur Produktkennzeichnung ist die zutreffende EMICODE-Klasse zu verwenden:

1) Verlegewerkstoffe, Klebstoffe und Bauprodukte

Parameter	EC 1 ^{PLUS}	EC 1	EC 2
	max. zulässige Konzentration [µg/m³]		
TVOC nach 3 Tagen	≤ 750	≤ 1000	≤ 3000
TVOC nach 28 Tagen	≤ 60	≤ 100	≤ 300
TSVOC nach 28 Tagen	≤ 40	≤ 50	≤ 100
R-Wert basierend auf AgBB-NIK-Werten nach 28 Tagen	≤ 1	≤ 1	-
Summe der nicht bewertbaren VOC	≤ 40	-	-
Formaldehyd nach 3 Tagen	≤ 50	≤ 50	≤ 50
Formaldehyd nach 28 Tagen	≤ 10	≤ 10	≤ 10
Acetaldehyd nach 3 Tagen	≤ 50	≤ 50	≤ 50
Summe von Form- und Acetaldehyd	≤ 0,05 ppm	≤ 0,05 ppm	≤ 0,05 ppm
Summe von flüchtigen K1A/K1B-Stoffen nach 3 Tagen	< 10	< 10	< 10
Jeder flüchtige K1A/K1B-Stoff nach 28 Tagen	< 1	< 1	< 1

2) Oberflächenbehandlungsmittel für Parkett, mineralische Böden und elastische Bodenbeläge

Parameter	EC 1 ^{PLUS}	EC 1	EC 2
	max. zulässige Konzentration [µg/m³]		
Summe TVOC + TSVOC nach 28 Tagen	≤ 100 davon max. 40 SVOC	≤ 150 davon max. 50 SVOC	≤ 400 davon max. 100 SVOC
R-Wert basierend auf AgBB-NIK-Werten nach 28 Tagen	≤ 1	≤ 1	-
Summe der nicht bewertbaren VOC	≤ 40	-	-
Formaldehyd nach 3 Tagen	≤ 50	≤ 50	≤ 50
Formaldehyd nach 28 Tagen	≤ 10	≤ 10	≤ 10
Acetaldehyd nach 3 Tagen	≤ 50	≤ 50	≤ 50
Summe von Form- und Acetaldehyd	≤ 0,05 ppm	≤ 0,05 ppm	≤ 0,05 ppm
Summe von flüchtigen K1A/K1B-Stoffen nach 3 Tagen	< 10	< 10	< 10
Jeder flüchtige K1A/K1B-Stoff nach 28 Tagen	< 1	< 1	< 1

Awarding of licence for the use of EMICODE

Licence Number: 12749/10.10.13
For the product OTTOCOLL® M530 HiSpeed
Of company Hermann Otto GmbH
Due to application date 10.12.2020

With reference to the classification in accordance with the directives as stipulated in § 10 of the GEV trademark constitution

on behalf of the GEV for the above mentioned product as per § 5, section 4 of the GEV trademark constitution is awarded the licence for the use of the GEV trademark



This product meets with the guidelines for the criteria of use listed reverse.
The company is ordinary member of the GEV.

OM098 11.12.2025
valid until 11.12.2030

The Secretary General
Association for the Control of Emissions in Products
for Flooring Installation, Adhesives and Building Materials (GEV)
Völklinger Straße 4 · D-40219 Düsseldorf

Requirement guidelines for the awarding of the EMICODE licence

The product mentioned on the front side of the licence has to fulfil among others the following criteria in accordance with the Constitution and the guidelines of the Technical Council of the GEV:

- The product meets all the legal requirements, especially the chemical laws and their specifications.
- The product is solvent free as specified in chapter 2.4 of the “GEV Classification Criteria”, except if it is a surface treatment product. If the product is assigned to a GISCODE product group then this can be labelled.
- A safety data sheet (SDS) according to local law in its respectively valid version is issued for the product.
- Carcinogenic, mutagenic, reprotoxic substances of the categories 1A or 1B are not actively added to the product during manufacture (for exemptions see chapter 3.1.2.2 of the “GEV Classification Criteria”).
- The testing of the product is performed in accordance with the “GEV Testing Method”. VOC determination is performed in a test chamber followed by the Tenax / thermal desorption procedures with subsequent GC/MS analysis.
- The assignment of an EMICODE class is performed according to the following criteria and TVOC/TSVOC concentration levels. The corresponding EMICODE class shall be used to label the product:

1) Installation products, adhesives and construction products

Parameter	EC 1 ^{PLUS}	EC 1	EC 2
	max. allowed concentration [$\mu\text{g}/\text{m}^3$]		
TVOC after 3 days	≤ 750	≤ 1000	≤ 3000
TVOC after 28 days	≤ 60	≤ 100	≤ 300
TSVOC after 28 days	≤ 40	≤ 50	≤ 100
R value based on German AgBB LCI (NIK) after 28 days	≤ 1	≤ 1	-
Sum of non-assessable VOC	≤ 40	-	-
Formaldehyde after 3 days	≤ 50	≤ 50	≤ 50
Formaldehyde after 28 days	≤ 10	≤ 10	≤ 10
Acetaldehyde after 3 days	≤ 50	≤ 50	≤ 50
Sum of form- and acetaldehyde	$\leq 0.05 \text{ ppm}$	$\leq 0.05 \text{ ppm}$	$\leq 0.05 \text{ ppm}$
Sum of volatile C1A/C1B after 3 days	< 10	< 10	< 10
Any volatile C1A/C1B after 28 days	< 1	< 1	< 1

2) Products for floor surface treatments for parquet, mineral floors and resilient floorings

Parameter	EC 1 ^{PLUS}	EC 1	EC 2
	max. allowed concentration [$\mu\text{g}/\text{m}^3$]		
Sum TVOC + TSVOC after 28 days	≤ 100 thereof max. 40 SVOC	≤ 150 thereof max. 50 SVOC	≤ 400 thereof max. 100 SVOC
R value based on German AgBB LCI (NIK) after 28 days	≤ 1	≤ 1	-
Sum of non-assessable VOC	≤ 40	-	-
Formaldehyde after 3 days	≤ 50	≤ 50	≤ 50
Formaldehyde after 28 days	≤ 10	≤ 10	≤ 10
Acetaldehyde after 3 days	≤ 50	≤ 50	≤ 50
Sum of form- and acetaldehyde	$\leq 0.05 \text{ ppm}$	$\leq 0.05 \text{ ppm}$	$\leq 0.05 \text{ ppm}$
Sum of volatile C1A/C1B after 3 days	< 10	< 10	< 10
Any volatile C1A/C1B after 28 days	< 1	< 1	< 1