



Architectural & Construction

Coating resins for **concrete flooring & protection**



Protecting the heaviest-duty flooring, safely and efficiently

Whether in car parks or sports areas, most concrete floors have to withstand mechanical and thermal stress, chemicals, water, and UV light. All while still being comfortable and safe to walk on! As such, concrete floor coatings must offer cleanability, slip resistance, elasticity, crack-bridging properties, and often, aesthetic improvements. Plus productivity, if a quick return to operation for the floor square is needed.

Our resins for concrete flooring include solutions for multiple coating layers – primer, leveling layer, membrane, wear surface, and topcoat– so you can adapt the build-up as needed. This range also includes our Pasquick® solutions, which are designed to enhance productivity by curing up to eight times faster than equivalent systems.

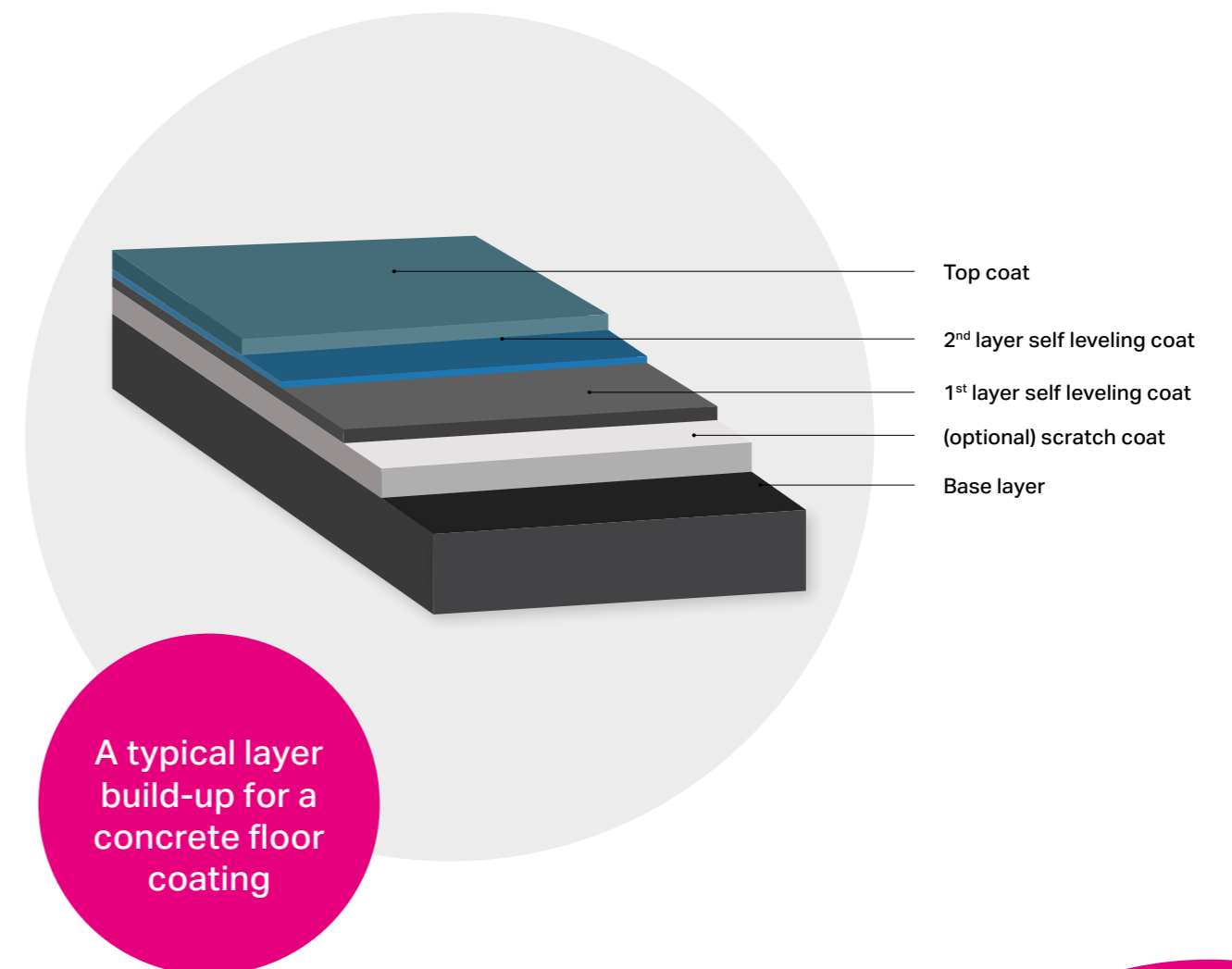


Designed to withstand tough demands

From domestic flooring to high-traffic industrial areas

To enable the millimeters-thick coatings typically needed for concrete flooring applications, we offer a broad portfolio of binders. These binders can be used in both 1K and 2K systems, in solvent-based, water-based, and/or solvent-free formulations, and can be applied using a variety of methods.

With good flexibility, hardness, and anti-cracking properties, our binders are well suited to demanding high-end industrial flooring applications – from public buildings to car park decks.





Selected portfolio offerings: Aliphatic polyisocyanates and aromatic prepolymers:

NAME	SUPPLY FORM (%)	VISCOSITY AT 23°C (mPa s)	NCO CONTENT (%) IN RELATION TO SUPPLY FORM	EQ WEIGHT (g/mol)	BENEFITS/ MAIN PROPERTIES
ALIPHATIC POLYISOCYANATES					
Desmodur® N 3200	100	2 500	23.0	185	Good compatibility with branched polyols, binder for 1K PU stone carpets.
Desmodur® ultra N 3300	100	3 000	21.8	195	Standard aliphatic hardener for 2K and 1K PU systems.
Desmodur® ultra N 3600	100	1 200	23.0	185	Standard aliphatic hardener, low viscous.
Desmodur® ultra N 3800	100	6 000	11.0	380	Flexible aliphatic hardener.
Desmodur® ultra N 3900	100	730	23.5	180	Low viscous polyisocyanate hardener.
Desmodur® CQ ultra N 7500	100	1 700	18.5	227	Low viscous biobased polyisocyanate hardener with 69% biobased content, suitable for self-leveling floor applications.
Desmodur® CQ ultra N 7600	100	3 000	19.6	214	Biobased polyisocyanate hardener, binder for 1K PU systems with 69% biobased content, suitable for stone carpet applications.
Desmodur® N 75 MPA/X	75	250	16.5	255	Standard aliphatic hardener for 2K PU solvent based coatings, other supply forms available.
Desmodur® ultra Z 4470 MPA/X	70	1 500	11.9	360	Fast physical drying and high hardness.
Desmodur® NZ 300	100	3 000	21.0	200	HDI/IPDI based hardener solvent free, decorative floor coatings.
Desmodur® ultra N 31100	100	500	20.0	215	Very low viscosity, good compatibility with polyols and more flexible vs standard HDI trimers.
AROMATIC PREPOLYMERS					
Desmodur® VL	100	90	31.5	135	Hardener for self-levelling PU flooring and 3K PU mortars.
Desmodur® VL 50	100	23	32.5	130	Hardener for self-levelling PU flooring, good flexibility.
Desmodur® VH 20 N	100	280	24.5	170	Hardener for self-levelling PU flooring, good flexibility.
Desmodur® XP 2551	100	66	32.0	130	Hardener for self-levelling PU flooring and 3K PU mortars.
Desmodur® E 21	100	5 400	16.0	260	1K PU solvent based primers for concrete.
Desmodur® E 22	100	2 800	8.6	490	Binder for EPDM rubber crumb.
Desmodur® E 23	100	1 800	15.4	270	1K PU solvent based primers for concrete and bitumious substrates.
Desmodur® E 29	100	220	24.0	175	1K PU primer solvent free for concrete.
Desmocap® 14 CNB	100	25 000		930	Blocked Prepolymer, flexibilization of epoxy resins.

Polyisocyanates, prepolymers, and polyols

Polyisocyanates, prepolymers, and polyols form the foundation of several kinds of concrete floor-coating systems. For instance:

- Polyols and aliphatic polyisocyanates can be combined to create easy-flowing, **self-leveling** 2K systems. These are easy to formulate and ideal for domestic or light-industrial concrete flooring applications with high aesthetic requirements.
- Desmodur® E aromatic prepolymers and polyisocyanates can be used to create easy-to-formulate 1K **moisture-curing** systems. Ranging from hard to flexible, these systems are well suited for wood/crumb binders, as well as for primers or topcoats in outdoor applications.
- Aliphatic polyisocyanates can be combined with our aminofunctional co-reactants to form **polyaspartic (PAS)** and/or **polyurea (PUA)** systems – see the 'aminofunctional co-reactants' section on page 10 for full details.
- Our blocked prepolymers – like Desmocap® 14 CNB – can be used to formulate **functional** systems with excellent mechanical properties. These systems are ideal for flexible applications such as parquet adhesives, rail embedding, and car-park and bridge decks.



Selected portfolio offerings: Polyisocyanates

NAME	SUPPLY FORM (%)	VISCOSITY AT 23°C (mPa s)	NCO CONTENT (%) IN RELATION TO SUPPLY FORM	EQ WEIGHT (g/mol)	BENEFITS/ MAIN PROPERTIES
POLYISOCYANATES					
Desmodur® ultra N 3600	100	1 200	23.0	185	Standard aliphatic hardener, low viscous.
Desmodur® ultra N 3900	100	730	23.5	180	Very low viscosity.
Desmodur® N 31000	100	500	23.0	183	Hardener component for lightfast, weather-stable coating systems.
Desmodur® ultra N 31100	100	500	20.0	215	Very low viscosity, good compatibility with polyols and more flexible vs standard HDI trimers.
Desmodur® E 30700	100	1 350	11.0	380	Highly elastic prepolymer for polyaspartic waterproofing and decorative coating.
Desmodur® ultra E 30500	100	4 250	12.5	335	Highly elastic prepolymer, stable to hydrolysis.

NAME	SUPPLY FORM (%)	VISCOSITY AT 23°C (mPa s)	OH CONTENT (%) ON SOLID	BENEFITS/ MAIN PROPERTIES
POLYOLS				
Desmophen® 1100	100	30 500	6.5	Toughness, 2K solvent-based PU parquet coatings / sport floor topcoats.
Desmophen® VPLS 2249/1	100	1 900	15.5	High OH content, combination partner with hydrophobic polyols.
Desmophen® 651 MPA/X	65	2 500	5.5	Highest chemical resistance.
Desmophen® 1380 BT	100	600	11.7	High OH containing polyether triol.
Desmophen® 5028 GT	100	3 600	0.9	Trifunctional polyol suitable to enhance floor coating properties.
Desmophen® 2060 BD	100	310	1.7	Self levelling flooring, 2K PU adhesives.

“Polyisocyanates, prepolymers, and polyols form the foundation of several kinds of concrete floor-coating systems”



Selected portfolio offerings: Polyisocyanate crosslinkers for waterbased systems:

NAME	SUPPLY FORM (%)	VISCOSITY AT 23°C (mPa s)	NCO CONTENT (%) IN RELATION TO SUPPLY FORM	BENEFITS/ MAIN PROPERTIES
POLYISOCYANATE CROSSLINKERS FOR WATERBASED SYSTEMS				
Bayhydur® ultra 304	100	4 000	18.2	Versatile polyisocyanate crosslinker, polyether modified. Good mixability and excellent weather resistance.
Bayhydur® ultra 305	100	6 500	16.2	Polyether modified polyisocyanate crosslinker, suitable for high gloss formulations.
Bayhydur® ultra 308	100	900	20.0	Ready to use, polyether modified low viscous polyisocyanate crosslinker. Easy mixing in waterbased formulations.
Bayhydur® ultra 312	100	900	22.8	Ready to use, ionically modified low viscous polyisocyanate crosslinker. Easy mixing in waterbased formulations.
Bayhydur® ultra 3100	100	2 800	17.4	Versatile polyisocyanate crosslinker, polyether modified. Suitable for economical formulations.

NAME	SUPPLY FORM (%)	VISCOSITY AT 23°C (mPa s)	OH CONTENT (%) ON SOLID	pH	BENEFITS/ MAIN PROPERTIES
HYDROXYFUNCTIONAL ACRYLIC DISPERSIONS					
Bayhydrol® A 2457	41	<100	2.5	8.2	Economic 2K PU waterbased clear and pigmented floor coatings.
Bayhydrol® A 2546	41	<200	4.8	8.0	Standard type for matt, high chemical resistance floor topcoats.
NeoCryl® XK-103	45	<250	3.2	7.8	Versatile grade with wide compability with polyisocyanate crosslinkers.
NeoCryl® XK-110	46.5	<400	2.5	7.0	Economic 2K PU waterbased clear and pigmented floor coatings.
NeoCryl® XK-541	40	<300	4.2	7.8	Suitable for high gloss and high resistant topcoat formulations.
NeoCryl® XK-555	40	<300	5.0	7.8	Suitable for high gloss formulations, combined with excellent resistance levels.

NAME	SUPPLY FORM (%)	VISCOSITY AT 23°C (mPa s)	MFFT (°C)	pH	BENEFITS/ MAIN PROPERTIES
ACRYLIC DISPERSIONS					
NeoCryl® XK-170	45	<500	33	9.4	Primer for concrete.
NeoCryl® XK-205	42	<130	55	7.5	1K light duty concrete for DIY.

Solutions for water-based topcoats

For the top coat of a self-leveling flooring system, a combination of our Bayhydur® polyisocyanate crosslinkers and Bayhydrol® or NeoCryl® acrylic dispersions can be used to create a durable finish.

Aminofunctional co-reactants for PAS/PUA systems

For fast-curing 2K polyaspartic (PAS) or polyurea (PUA) systems, our Desmophen® CQ aminofunctional co-reactants can be combined with our Desmodur® aliphatic polyisocyanates (introduced on page 6). Together, these technologies form key components of our Pasquick® technology.

Pasquick® systems offer excellent flexibility, as well as mechanical and chemical resistance. Their fast curing allows for 2-3 coating layers to be applied in one day, whether using a trowel, squeegee, or roller. This makes them well suited to flooring in high-traffic areas where a fast return to operation is needed, such as car parks.

As part of our CQ portfolio, all the following products contain at least 25% alternative raw material content. In addition, our low-FADEE grades offer improved industrial hygiene.



Selected portfolio offerings: Aminofunctional co-reactants for PAS/PUA systems:

NAME	SUPPLY FORM (%)	VISCOSITY AT 23°C (mPa s)	EQ WEIGHT (g/mol)	BENEFITS/ MAIN PROPERTIES
AMINOFUNCTIONAL CO-REACTANTS				
Desmophen® CQ NH 1220	100	90	234	Very fast drying.
Desmophen® CQ NH 1420	100	1 450	276	Standard grade, best balance working time - curing speed.
Desmophen® CQ NH 1423 LF	100	1 500	274	Low FADEE version of NH 1420.
Desmophen® CQ NH 1520	100	1 400	290	Longer pot-life and slow drying.
Desmophen® CQ NH 1523 LF	100	2 400	280	Low FADEE version of NH 1520.
Desmophen® CQ NH 1720	100	100	295	Low viscous, combination partner, diluent.
Desmophen® CQ NH 1723 LF	100	80	290	Low FADEE version of NH 1720.

Solid acrylics for PMMA systems

For highly strong, durable polymethylmethacrylate (PMMA) floor-coating systems, our NeoCryl® solid acrylic beads can be used. These systems can be rapidly cured and offer strong resistance to impact, heavy loads, water, and chemicals such as petrol.

These properties make NeoCryl® solid acrylic beads well suited to road marking applications, as well as other heavy-duty, high-traffic industrial applications in areas such as balconies, roofing, warehouses, parking garages, and production areas.



Selected portfolio offerings: Solid acrylics for PMMA systems:

NAME	SUPPLY FORM (%)	Tg (°C)	MOLECULAR WEIGHT (g/mol)	BENEFITS/ MAIN PROPERTIES
SOLID ACRYLICS				
NeoCryl® B-725	100	63	55 000	Solid acrylic copolymer for e.g. road marking.
NeoCryl® B-788XP	100	47	145 000	Solid methacrylic copolymer for concrete/seamless floor systems.
NeoCryl® B-826	100	66	105 000	Solid acrylic copolymer for outdoor durable, high chemical and mechanical performance.
NeoCryl® B-891	100	77	35 000	Solid methacrylic copolymer for concrete/seamless floor systems, resistance against petrol.



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¹Please see the "Guidance on Use of Covestro Products in a Medical Application" document.
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