



Advanced Polymer Technologies for

Industrial Wood Coatings

HEALTH • NUTRITION • MATERIALS





New innovations

...to enhance peoples lives.

Our business is all about improving people's lives. At DSM we want to make life brighter for people – today and in generations to come. We connect our unique skills in materials sciences to create solutions that nourish, protect, and improve performance. And contribute to a more sustainable world. This is reflected in how we approach the coatings business.

Brighter future

Some companies see sustainability as a challenge, but at DSM for coating resins we see it as an opportunity, with endless possibilities to work together for a brighter future. By exchanging ideas and collaborating openly, we are making a difference. Innovating to add value to people's lives, ensure profitability, and protect the planet.

Bright Science

Bright Science is at the heart of all we do in coatings. Based on our intimate knowledge of our markets and our deep materials science expertise across a wide range of applications. Our global network of industry specialists spend their working lives traveling the world and talking to customers and other players in the supply chains. Through these deep partnerships built on mutual trust, we create bespoke resins and technologies that enhance our customers' formulations and their customers' everyday experiences.

Brighter Living

This means Brighter Living for everyone. Now you can rest your wine glass on a beautifully lacquered coffee table without leaving a stain. Or apply mosquito spray before heading out into the sun, knowing it won't take the shine off your cabriolet's interior paint. That's the real beauty of Bright Science, brightening lives wherever and whenever it touches them.

DSM for coating resins

DSM has a dedicated division that draws upon its broad know-how and understanding of market and customer needs to develop innovative resin solutions that deliver the best performance in the coatings and graphic arts markets.

From our headquarters in the Netherlands, we provide resins for coatings and graphic arts markets around the globe. We support our customers with manufacturing sites in North America, Europe, and Asia. Our brand names are well known around the world, including NeoCryl™, NeoRez™, NeoPac™, NeoRad™, Hybrane™, Uralac™, Uracron™, Urathix™, and Uradil™.

Customers rely on us for a unique range of tailor-made, sustainable solutions based on water borne, UV, powder, and solvent borne technologies. We are the largest producer of polyester resins in the world and one of the largest producers of specialty emulsions, ensuring a dependable supply of product that fits our customers' individual requirements.

We have a dedicated focus on people, profit, and planet. As an example, we design resin systems with tomorrow's environmental requirements in mind, guided by our Product Stewardship principles, by an awareness of the need for continuity, and by a strong sense of responsibility. We have an outstanding sustainability record in specialty resins that we continue to improve each day.

Industrial Wood Coatings

For over 40 years, many leading players across the value chain of the furniture and industrial wood industry have trusted DSM to advance the performance and cost-effectiveness of their paint systems. Our broad resin technologies consist of various acrylic and polyurethane polymers and copolymers, water-based, powder and UV systems for clear and pigmented paints, strengthened by our in-depth knowledge of polyesters and alkyds. This, combined with our in-depth application know-how, enables us to develop formulations that perform better in the most challenging conditions. And enhance people's daily lives. From bathroom cabinets that last longer thanks to better protection against bacteria and moisture. To conference room floors that look as good as new after several years of heavy use. Customers are guaranteed a reliable supply of consistent quality products worldwide. They can tap into our long expertise in sustainable coatings to help them switch to cleaner production processes.

Furniture

We work closely with coating manufacturers, applicators and furniture producers to find new ways to beautify and protect wooden furniture through the use of specialty resins for paint systems. We draw upon our long expertise in the applications and materials science of resins for the furniture industry. From urethane-acrylic, acrylic and self cross-linking acrylic copolymers to water-based and powder based UV and two-component technologies. Our collaborations have generated creative



Kitchen cabinets and flat panels

For the demanding area of kitchen cabinets, bathroom cabinets, and office furniture, we have co-developed a comprehensive portfolio of specialty resins for clear and pigmented paints. These products provide reliable protection for heavy duty areas, like dishwasher panels that are exposed to a great deal of moisture. Office furniture can be made more resistant to scratches and flaking so it looks

solutions to challenging issues. Like a cafeteria chair that resists wear and damage from hand cream. A high gloss finish for dark wood furniture or a matte finish for light wood furniture that both perform equally well anywhere in the world. Sustainability is a driving factor in all we do. Working together we can help you switch your production processes from solvent to water-based systems, UV curable and powder technology, to make the future brighter for everyone.



Industrial parquet

Imagine a parquet wood floor for a children's play room that's better at resisting stains, chemicals, and even felt tip and permanent marker pens. Or a cherry parquet floor in a



good longer. Or the immaculate finish on a grand piano can still look beautiful year after year. Whether you need to adapt a formulation for your production line, improve the block resistance of a coating, reduce your carbon footprint, or create a more reliable supply chain – our unique experience in materials science for wooden furniture and panels helps you resolve your toughest challenges.

home office that still looks beautiful after many years of intensive use. We work with customers across the industrial parquet industry to develop resins for primers and paint systems that have a positive effect on people's lives. Our unique expertise in wooden floor applications and materials science results in coatings that perform consistently in the toughest conditions, in every climate. Together we can efficiently develop innovative coatings that meet new requirements in performance, cost, production, or environmental regulations.



Water-borne acrylic emulsions

| | Solids (%) | pH | MFT (°C) | OH % on solids | Description | Main benefit(s) | Sealers | Pigmented primers | Transparent laquers | Pigmented topcoats | Stains | 2 component NCO | Acid curing | UV curing | Formulation guidelines |
|-----------------|------------|-----|----------|----------------|--------------------------|--|---------|-------------------|---------------------|--------------------|--------|-----------------|-------------|-----------|------------------------|
| NeoCryl™ XK-30 | 42.5 | 4.5 | 30 | | Acrylic emulsion | Good wood colorant isolating properties | ● | | | | | | | | On request |
| NeoCryl™ XK-151 | 42.5 | 7.2 | 35 | | Acrylic emulsion | General purpose use | ● | ● | ● | ● | | | | | On request |
| NeoCryl™ XK-52 | 40 | 5.2 | >100 | | Acrylic emulsion | High hardness, additive to improve block and scratch resistance | | ● | ● | ● | | | | | On request |
| NeoCryl™ XK-53 | 38 | 7.5 | 13 | | Acrylic emulsion | General purpose use, coalescent containing | ● | | ● | | ● | | | | On request |
| NeoCryl™ XK-70 | 45 | 9.2 | 33 | | Styrene acrylic emulsion | Excellent water resistance, primers for 100% UV curing systems | | | | | | | | | On request |
| NeoCryl™ XK-155 | 30 | 8.3 | 33 | | Acrylic emulsion | Excellent block resistant, quick drying | ● | ● | ● | ● | | | | | On request |
| NeoCryl™ A-639 | 45 | 6.2 | 67 | | Syrene acrylic emulsion | General purpose use, high hardness and block resistant | ● | | ● | | | | | | On request |
| NeoCryl™ XK-205 | 42 | 8.2 | 55 | | Styrene acrylic emulsion | General purpose use, good wood wetting | | | ● | ● | | | | | On request |
| NeoCryl™ XK-84 | 42.5 | 8.5 | <0 | | Acrylic alkyd emulsion | Good impregnating properties | ● | ● | | | | | | | On request |
| NeoCryl™ XK-87 | 51 | 7.4 | 27 | | Styrene acrylic emulsion | Good sandable | ● | ● | | | | | | | On request |
| NeoCryl™ XK-90 | 45 | 8.7 | <0 | | Acrylic emulsion | Flexible and exterior durable | | ● | ● | ● | ● | | | | On request |
| NeoCryl™ A-1049 | 40 | 6.2 | 36 | | Styrene acrylic emulsion | Good wood wetting | ● | | | | ● | | | | On request |
| NeoCryl™ XK-350 | 42.5 | 4.5 | 36 | | Acrylic emulsion | Good wood colorant isolating properties, good anti bleeding properties | ● | | | | | | | | On request |

Water-borne self crosslinking acrylic emulsions

| | Solids (%) | pH | MFT (°C) | OH % on solids | Description | Main benefit(s) | Sealers | Pigmented primers | Transparent laquers | Pigmented topcoats | Stains | 2 component NCO | Acid curing | UV curing | Formulation guidelines |
|----------------|------------|-----|----------|----------------|---|--|---------|-------------------|---------------------|--------------------|--------|-----------------|-------------|-----------|------------------------|
| NeoCryl™ XK-12 | 45 | 8.0 | 31 | | Self crosslinking acrylic emulsion | Hot blocking resistant, good resistance to water, alcohol and chemicals | ● | ● | ● | ● | | | | | On request |
| NeoCryl™ XK-14 | 40 | 8.6 | 33 | | Self crosslinking acrylic emulsion, emulsifier free | Good resistance to water, alcohol and chemicals, high transparency | | | ● | | ● | | | | On request |
| NeoCryl™ XK-15 | 45 | 7.7 | 31 | | Self crosslinking acrylic emulsion, emulsifier free | Outstanding wood wetting properties, good resistance to water and alcohol, high transparency, good hand cream resistance | ● | | ● | | ● | | | | On request |
| NeoCryl™ XK-16 | 40 | 8.0 | 34 | | Self crosslinking acrylic emulsion | High hardness and good block resistant, good resistance to water and alcohol | ● | ● | ● | ● | | | | | On request |
| NeoCryl™ XK-17 | 40 | 8.0 | 25 | | Self crosslinking acrylic emulsion, emulsifier free | Good resistance to water and alcohol, stain resistant, high transparency, good flow properties | | | ● | | ● | | | | On request |
| NeoCryl™ XK-96 | 45 | 9.0 | ∞ | | Self crosslinking acrylic emulsion | Low VOC, soft and flexible, block resistant | | ● | ● | ● | ● | | | | On request |
| NeoCryl™ XK-98 | 45 | 7.5 | 7 | | Self crosslinking acrylic emulsion | Low VOC, soft and flexible, block resistant | | ● | ● | ● | ● | | | | On request |

Water-borne hydroxyl functional acrylic emulsions

| | Solids (%) | pH | MFT (°C) | OH % on solids | Description | Main benefit(s) | Sealers | Pigmented primers | Transparent laquers | Pigmented topcoats | Stains | 2 component NCO | Acid curing | UV curing | Formulation guidelines |
|------------------------|------------|-----|----------|----------------|--|---|---------|-------------------|---------------------|--------------------|--------|-----------------|-------------|-----------|------------------------|
| NeoCryl™ XK-69 | 475 | 4.5 | 37 | 0.6 | Hydroxyl functional acrylic emulsion | High hardness, use in wood imitation paper coatings | | | ● | | | | ● | | On request |
| NeoCryl™ XK-101 | 40 | 6.8 | 23 | 1.8 | Hydroxyl functional acrylic emulsion | Good scratch resistance, high transparency, general purpose use | | | | | | ● | | | On request |
| NeoCryl™ XK-102 | 40 | 7.3 | 41 | 0.6 | Hydroxyl functional acrylic emulsion | Good resistance to alcohol and water, both 1- and 2 component (NCO) curing | ● | ● | ● | ● | | ● | | | On request |
| NeoCryl™ XK-104 | 40 | 6.8 | 53 | 0.6 | Hydroxyl functional acrylic emulsion | Good resistance to alcohol and water, both 1- and 2 component (NCO) curing | ● | ● | ● | ● | | ● | | | On request |
| NeoCryl™ SC-160 | 38 | 5.0 | 51 | 1.9 | Hydroxyl functional acrylic emulsion | Good sandability, use in wood imitation paper coatings | | | ● | | | | ● | | On request |
| NeoCryl™ SC-161 | 50 | 4.5 | 54 | 1.9 | Hydroxyl functional acrylic emulsion | Good sandability, high gloss, use in wood imitation paper coatings | | | ● | | | | ● | | On request |
| NeoCryl™ XK-540 | 40 | 7.8 | 5 | 4.2 | Hydroxyl functional acrylic emulsion | High gloss, polishable coatings, excellent resistance | | | ● | ● | | ● | | | On request |
| NeoCryl™ XK-541 | 40 | 7.8 | 5 | 4.2 | Hydroxyl functional acrylic emulsion, solvent free | Solvent free, high gloss, polishable coatings, excellent resistance | | | ● | ● | | ● | | | On request |
| NeoCryl™ XK-555 | 40 | 7.8 | 26 | 5.0 | Hydroxyl functional acrylic emulsion | High gloss, polishable coatings, excellent resistances | | | ● | ● | | ● | | | On request |

Water-borne urethane acrylic dispersions

| | Solids (%) | pH | MFT (°C) | OH % on solids | Description | Main benefit(s) | Sealers | Pigmented primers | Transparent laquers | Pigmented topcoats | Stains | 2 component NCO | Acid curing | UV curing | Formulation guidelines |
|---------------|------------|-----|----------|----------------|--------------------------------------|--|---------|-------------------|---------------------|--------------------|--------|-----------------|-------------|-----------|------------------------|
| NeoPac™ E-107 | 33 | 8.4 | 34 | | Urethane acrylic dispersion | Abrasion resistant, scratch resistant, warm wood wetting | | | ● | | | | | | On request |
| NeoPac™ E-119 | 35 | 8.2 | 34 | | Urethane acrylic dispersion | High hardness, good scratch and hand cream resistance, for general purpose use | | | ● | ● | | | | | On request |
| NeoPac™ E-129 | 39 | 7.5 | 60 | | NMP free urethane acrylic dispersion | NMP free, high hardness, good scratch and hand cream resistance, for general purpose use | | | ● | ● | | | | | On request |
| NeoPac™ E-160 | 34 | 8.6 | 29 | | Urethane acrylic dispersion | Excellent stain and coffee resistance in white pigmented coatings | | | | ● | | | | | On request |

Water-borne urethane dispersions

| | Solids (%) | pH | MFT (°C) | OH % on solids | Description | Main benefit(s) | Sealers | Pigmented primers | Transparent laquers | Pigmented topcoats | Stains | 2 component NCO | Acid curing | UV curing | Formulation guidelines |
|----------------|------------|-----|----------|----------------|--|--|---------|-------------------|---------------------|--------------------|--------|-----------------|-------------|-----------|------------------------|
| NeoRez™ R-974 | 40 | 8.0 | <0 | | Urethane dispersion | High hardness and good scratch resistance, for general purpose use, combination partner for acrylic emulsions | | ● | ● | ● | | | | | On request |
| NeoRez™ R-1003 | 35 | 7.7 | <0 | | Urethane dispersion | Good flow and filling properties, combination partner for NeoPac E-119 | | | ● | ● | | | | | On request |
| NeoRez™ R-1004 | 40 | 8.0 | <0 | | Urethane dispersion | Hard and scratch resistant, combination partner for acrylic emulsions | | ● | ● | ● | | | | | On request |
| NeoRez™ R-1005 | 39 | 7.2 | <0 | | Urethane dispersion, solvent free | Soft and flexible, combination partner for acrylic emulsions | | ● | ● | ● | | | | | On request |
| NeoRez™ R-1007 | 40 | 7.6 | <0 | | Urethane dispersion, solvent free | Soft and flexible, combination partner for acrylic emulsions | | ● | ● | ● | | | | | On request |
| NeoRez™ R-2005 | 35 | 8.0 | <0 | | Urethane dispersion, solvent free | Hard and scratch resistant, NMP, TEA, Tin and APEO free | | ● | ● | ● | | | | | On request |
| NeoRez™ R-2170 | 40 | 7.9 | <0 | | Urethane dispersion, solvent free | Non yellowing, scratch resistant, both suitable for 1 and 2 component coatings | ● | | ● | | | ● | | | On request |
| NeoRez™ R-9029 | 32 | 8.0 | <0 | | Urethane dispersion, fatty acid modified, solvent free | Excellent wood wetting, high hardness and excellent chemical resistances, low yellowing resistance, combination partner for urethane acrylic dispersions | ● | | ● | | | | | | On request |

Water-borne UV curing urethane dispersions

| | Solids (%) | pH | MFT (°C) | OH % on solids | Description | Main benefit(s) | Sealers | Pigmented primers | Transparent laquers | Pigmented topcoats | Stains | 2 component NCO | Acid curing | UV curing | Formulation guidelines |
|-----------------|------------|-----|----------|----------------|---|---|---------|-------------------|---------------------|--------------------|--------|-----------------|-------------|-----------|------------------------|
| NeoRad™ R-440 | 40 | 8.2 | 4 | | Urethane oligomer dispersion, monomer free | Hard and scratch resistant, non yellowing | ● | ● | ● | | | | | ● | On request |
| NeoRad™ R-441 | 39 | 6.2 | <0 | | Aliphatic urethane dispersion | Good wood wetting and transparency, economical WB UV coatings in combination with acrylic emulsions | ● | ● | ● | | | | | ● | On request |
| NeoRad™ R-447 | 35 | 8.0 | <0 | | Aliphatic urethane acrylic dispersion | Fast water evaporation, high chemical and stain resistant | | ● | ● | ● | | | | ● | On request |
| NeoRad™ R-448 | 40 | 7.7 | <5 | | Aliphatic urethane dispersion | High scratch chemical and stain resistant, label free | | ● | ● | ● | | | | ● | On request |
| NeoRad™ R-449 | 40 | 8.0 | <0 | | Aliphatic urethane dispersion | Excellent scratch, chemical and stain resistant | | ● | ● | ● | | | | ● | On request |
| NeoRad™ R-452 | 38 | 8.0 | <0 | | Aliphatic urethane acrylic dispersion | Fast water evaporation, high scratch chemical and stain resistant | | ● | ● | ● | | | | ● | On request |
| NeoRad™ UV-14 | 40 | 7.5 | <0 | | Aliphatic urethane dispersion | High hardness and scratch resistant, non yellowing | ● | ● | ● | | | | | ● | On request |
| NeoRad™ UV-20 | 40 | 6.5 | <0 | | Aliphatic urethane dispersion, epoxy modified | Good adhesion properties, good wood wetting and flow | ● | ● | ● | | | | | ● | On request |
| NeoRad™ UV-65 | 40 | 7.5 | <0 | | Aliphatic urethane dispersion | Good wood wetting, for economical WB UV coatings in combination with acrylic emulsions | ● | | ● | | | | | ● | On request |
| NeoRad™ UV-6711 | 40 | 7.5 | 10 | | Aliphatic urethane acrylic dispersion | For use in economical WB UV coatings | | ● | ● | | | | | ● | On request |

Water-borne matt soft feel urethane dispersions

| | Solids (%) | pH | MFT (°C) | OH % on solids | Description | Main benefit(s) | Sealers | Pigmented primers | Transparent laquers | Pigmented topcoats | Stains | 2 component NCO | Acid curing | UV curing | Formulation guidelines |
|-----------------------|------------|-----|----------|----------------|---|--|---------|-------------------|---------------------|--------------------|--------|-----------------|-------------|-----------|------------------------|
| NeoRez™ R-1000 | 35 | 8.1 | | | Aliphatic urethane dispersion | Provides matt and soft feel effect, for use as liquid matting agent | | | ● | | | | | | On request |
| NeoRez™ R-1010 | 35 | 8.1 | | | Aliphatic urethane dispersion, solvent free | Provides matt and soft feel effect, for use as liquid matting agent | | | ● | | | | | | On request |

Water-borne colloidal emulsions

| | Solids (%) | pH | MFT (°C) | OH % on solids | Description | Main benefit(s) | Sealers | Pigmented primers | Transparent laquers | Pigmented topcoats | Stains | 2 component NCO | Acid curing | UV curing | Formulation guidelines |
|-------------------------|------------|-----|----------|----------------|-----------------------------------|--|---------|-------------------|---------------------|--------------------|--------|-----------------|-------------|-----------|------------------------|
| NeoCryl™ XK-36 | 40 | 6.7 | 17 | | Alkaline soluble acrylic emulsion | Good resistance to water, roller coating primers for flatboard | | ● | | | | | | | On request |
| NeoCryl™ XK-39 | 45 | 2.3 | 57 | | Alkaline soluble acrylic emulsion | Good resistance to water, roller coating primers for flatboard | | ● | | | | | | | |
| NeoCryl™ BT-9 | 40 | 5.5 | <0 | | Alkaline soluble acrylic emulsion | Good flowing properties, roller coating primers for flatboard | | ● | | | | | | | |
| NeoCryl™ BT-26 | 40 | 4.2 | 12 | | Alkaline soluble acrylic emulsion | Good transfer properties, roller coating primers for flatboard | | ● | | | | | | | On request |
| NeoCryl™ BT-107S | 45 | 2.3 | 12 | | Alkaline soluble acrylic emulsion | Universal use, roller coating for primers for flatboard | | ● | | | | | | | On request |
| NeoCryl™ CA-180 | 50 | 3.8 | 13 | | Alkaline soluble acrylic emulsion | Fast drying and easy sandability, for universal use, roller coating for primers for flatboard | | ● | | | | | | | On request |

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