



## PRODUCT DATA SHEET

# Sikagard® Duroplast-100 N

HIGH GLOSS, HIGH SOLIDS, LOW ODOUR, LOW VOC, ABRASION RESISTANT, ANTIMICROBIAL EPOXY WALL COATING

### PRODUCT DESCRIPTION

Sikagard® Duroplast-100 N is a two-part, high solids, low odour, low VOC, finely textured, glossy, pigmented epoxy wall coating. It produces a durable, easy to clean ceramic-like finish on interior surfaces. Can be applied over properly prepared and primed concrete, concrete masonry, common steel, or gypsum board substrates. It is also used as binder for multi-layered, glass fabric-reinforced wall lining systems that improve the durability of gypsum board against impact. Sikagard® Duroplast-100 N contains an antimicrobial additive that inhibits the growth of bacteria, molds, mildew and fungi for the lifetime of the coating.

### WHERE TO USE

Sikagard® Duroplast-100 N may only be used by experienced professionals.

- Hospitals and medical research facilities.
- Pharmaceutical laboratories and production areas.
- Veterinarian and animal holding areas.
- Educational and recreational premises.
- Commercial kitchens and service corridors.
- Food and beverage processing areas.
- Packaging and storage areas.
- Rest rooms, locker rooms and showers.

### PRODUCT INFORMATION

CSC MasterFormat®

09 96 00 | HIGH-PERFORMANCE COATINGS

Packaging

3.78 L (1 US gal.) and 18.9 L (5 US gal.) units

### CHARACTERISTICS / ADVANTAGES

- Durable seamless surface that is easily cleaned and maintained.
- Waterproof, suitable for in-service areas exposed to high humidity.
- Aesthetic, fine textured, glossy finish.
- Good chemical and abrasion resistance.
- High solids, low VOC, neutral odour.
- Fast recoat cure properties are ideal for shutdown or fast turnaround projects.
- Excellent opacity and colour hiding capability.
- Can be reinforced with fibreglass fabric.
- Contains a permanent antimicrobial additive.

### ENVIRONMENTAL INFORMATION

Potential of contribution towards LEED®v4 credits.  
Contact Sika Canada.

### APPROVALS / CERTIFICATES

Meets the requirements of CFIA and USDA for use in food plants.

<b>Appearance / Colour</b>	RAL 9016 Traffic White Special colours available on request.	
<b>Shelf Life</b>	1 year in original, unopened packaging under proper storage conditions.	
<b>Storage Conditions</b>	Store dry at temperatures between 5 °C to 32 °C (41 °F to 89 °F). Precondition material for at least 24 hours between 18 °C to 30 °C (65 °F to 86 °F) before use.	
<b>Solid content by weight</b>	~97 %	
<b>Solid content by volume</b>	~94 %	
<b>Volatile organic compound (VOC) content</b>	Not thinned	~43 g/L
	Thinned	~86 g/L

## TECHNICAL INFORMATION

<b>Abrasion Resistance</b>	~80 mg loss	(ASTM D4060) (CS-17 wheels)	
<b>Tensile Strength</b>	~20.5 MPa (2975 psi)	(Not reinforced) (ASTM D638), Type IV 350 microns thick (14 mil)	
	~92.1 MPa (13 350 psi)	(ASTM D638) (Reinforced with woven fibreglass cloth)	
<b>Elongation at Break</b>	~3.5 %	(Not reinforced) (ASTM D638), Type IV 350 microns thick (14 mils)	
<b>Pull-Off Strength</b>	> 2.5 MPa (> 360 psi) (substrate failure)	(ASTM D7234)	
<b>Resistance to Impact</b>	Concrete with fibreglass CGSB 1-GP-71	Unaffected at 0.67 J (6 lb-in)	
	Steel with fibreglass (147.1) or Concrete no fibreglass ASTM D3029	Unaffected at 0.79 J (7 lb-in) Micro cracks at 1.31 J (11.6 lb-in) Visible cracks at 2.2 J (19.3 lb-in)	
	Scrubability CGSB 1-GP-71 (125.1) 10 000 cycles	Unaffected	
<b>Chemical Resistance</b>	Consult Sika Canada		
<b>Temperature Resistance</b>	<b>Flammability / Fire Rating:</b> 20 (FSR) Flame Spread Rating 40 (SDC) Smoke Developed Classification	(CAN/ULC S102)	
<b>Water Absorption</b>	Permeability 24 hours	~1.6 gr/m <sup>2</sup>	(ASTM D570)
	Immersion 24 hours	~0.62 %	
	Immersion 7 days	~0.63 %	
	2 hours in boiling water	~-2.04 %	
<b>Permeability to Water Vapour</b>	Procedure A	~0.11 perm (With fibreglass)	(ASTM E96)
	Procedure B	~0.89 perm (Without fibreglass)	

<b>Gloss Level</b>	<b>Gloss before &amp; after 10 000 cycle scrubability test</b>		
	~16 % increase		(ASTM D523)
	<b>Light Resistance:</b>		
	Coloured coating	Unaffected	100 hours CGSB 1-GP-71(120.1) or ASTM E188
	White coating	Yellowing	
<b>Mixing Ratio</b>	A:B = 4:1 by volume		
<b>Thinner</b>	Sika® Epoxy Cleaner - maximum 5 % by volume (if required: 50 mL/L (6.4 oz/US gal.) may reduce sag resistance.		
<b>Consumption</b>	5 m <sup>2</sup> /L to 6.7 m <sup>2</sup> /L (202 ft <sup>2</sup> /US gal. to 270 ft <sup>2</sup> /US gal.) per coat 6 mil to 8 mil (w.f.t.) Typically two (2) coats are required, however, on higher absorbency substrates, additional coats may be required. Actual coverage rates and material consumption will depend upon porosity and profile of the substrate. Test areas are recommended to establish correct coverage rates.		
<b>Ambient Air Temperature</b>	Minimum 10 °C (50 °F) Maximum 30 °C (86 °F). Ambient Air Relative Humidity: Maximum 85 % (during application & cure) <b>Note:</b> Mixing and application attempted at low ambient air or substrate temperatures and or under high humidity conditions, will result in a decrease in product workability and slow cure rates.		
<b>Dew Point</b>	Beware of condensation! The substrate must be at least 3 °C (5 °F) above the Dew Point to reduce the risk of condensation, which may lead to adhesion failure or “blushing” on the finish. Be aware that the substrate temperature may be lower than the ambient temperature.		
<b>Substrate Temperature</b>	Minimum 10 °C (50 °F) Maximum 30 °C (86 °F).		
<b>Substrate Moisture Content</b>	Maximum moisture content of all concrete substrates must be ≤ 4 % by mass (pbw - part by weight) when measured with a calibrated moisture meter for concrete (Tramex CME/CMExpert). Masonry surfaces, gypsum board and plaster must be below 85 (green zone on the reference scale) when measured with a calibrated electronic moisture meter (Delmhorst Model BD-10). Minimum age of concrete / masonry surfaces prior to application: 28 days (depending on curing and drying conditions). Minimum age of SikaTop® or Sika MonoTop® mortar prior to application is three (3) days, depending on curing and drying conditions. Moisture content must be ≤ 4 % by mass (pbw - parts by weight) when measured with a calibrated moisture meter for concrete (Tramex CME/CMExpert).		
<b>Pot Life</b>	23 °C ( 73 °F)	~45 minutes	250 g (8.8 Oz)
<b>Curing Time</b>	<b>Touch dry</b> at 23 °C (73 °F)	~6 hours	
	<b>Full cure</b> at 23 °C (73 °F)	~7 days	
	<b>Note:</b> Drying times will vary according to ambient air and substrate temperature and relative humidity. Protect from dampness, condensation and water contact during the initial 24 hour cure period.		
<b>Waiting Time / Overcoating</b>	23 °C (73 °F)	~6 hours to ~24 hours	

## BASIS OF PRODUCT DATA

Product properties are typically averages, obtained under laboratory conditions. Reasonable variations can be expected on-site due to local factors, including environment, preparation, application, curing and test methods.

Properties tested at 23 °C (73 °F) and 50 % R.H. unless stated otherwise.

## LIMITATIONS

- Prior to application, measure and confirm Substrate Moisture Content, Ambient Relative Humidity, Ambient and Surface Temperature and Dew Point. During installation, confirm and record above values at least once every three (3) hours, or more frequently whenever conditions change (e.g. Ambient Temperature rise / fall, Relative Humidity increase / decrease, etc.).
- Do not apply onto porous surfaces where moisture vapour transmission will occur during application.
- Direct-fired gas or kerosene heaters produce byproducts that can have adverse effects on the curing primer. To avoid this occurrence, heaters must be exhausted to the exterior of the building to avoid defects such as amine blush, whitening, loss of adhesion or other surface deficiencies.
- Apply product to dry, clean, properly cured and prepared surfaces in areas where dust is no longer generated by construction activities such that airborne particles will not reduce bond of coating or adhere to the surface, affecting the quality of subsequently applied finishes.
- When over-coating existing coatings, compatibility and adhesion testing is recommended and existing coating must be acknowledged as determining the adhesion and performance of all subsequently applied materials.
- This product is not designed nor intended for negative side waterproofing.
- Improper mixing procedure or incorrect mixing ratio may result in moisture sensitivity, whitening, slow cure, soft spots, and other defects.
- Not recommended for use on surfaces which are exposed to highly corrosive chemicals or heavy wear.
- Surface may discolour in areas exposed to constant ultra violet light.
- Not suitable for use as a traffic bearing surface or as a roofing material.

## ENVIRONMENT, HEALTH & SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

Product Data Sheet  
Sikagard® Duroplast-100 N  
November 2021, Version 01.01  
020811020030000025

## APPLICATION INSTRUCTIONS

### SURFACE PREPARATION

Substrates must be sound, clean and dry. Remove sand, dust, dirt, oil, grease, wax, silicone, glue and all other contaminants that may affect the bond of the applicable Sikagard® Duroplast-100 N. All substrates must be properly prepared, primed, sealed or filled using the applicable Sikagard® Duroplast® product before application of Sikagard® Duroplast-100 N.

#### Recommended Primers:

Concrete Vertical: Sikagard® Duroplast® EE  
Concrete masonry: Sikagard® Duroplast® EE  
Gypsum board: Sikagard® Duroplast® PS  
Common steel: Sikagard® Cor-Pro-470

Existing coatings must be removed unless extensive testing confirms compatibility of materials and it is accepted that the existing paint or high performance coating will determine the overall performance of the newly applied coating.

#### Gypsum Board:

To obtain a uniform finish the joint filler compound must be properly installed, finished and fully cured. Small defect, such as pinholes, ridges and fibre-lift, can become very apparent after finishing coats are applied. Some porous joint filler compounds may require an additional application of Sikagard® Duroplast® PS to seal and prime the overall surface to a uniform appearance. Gypsum board manufactured with recycled paper facings, may require additional preparation such as careful sanding and an additional coat of Sikagard® Duroplast® PS primer/sealer to eliminate high suction spots.

#### Concrete Masonry:

Mortar joints must be at least 28 days old prior to application of Sikagard® Duroplast® EE blockfiller. Remove all traces of efflorescence, loose mortar, mortar spatters, residues, oxidation powder and any other foreign matter by scraping and wire brushing. Bug holes, cracks or irregularities should be filled and levelled with SikaTop® or Sika MonoTop® mortars as appropriate. Consult Sika Canada for recommendations.

#### Concrete Vertical Surfaces:

New concrete must be at least 28 days old prior to application of Sikagard® Duroplast® EE blockfiller. Formed concrete surfaces must have all traces of form release agent, bond breaker, curing compounds, laitance, oxidation powder and all other foreign matter removed from the surface. Prepare the concrete to produce an open textured, sandpaper-like finish and uniform surface equivalent to ICRI - CSP 1-2. Bug holes, cracks or irregularities should be filled and levelled with SikaTop® or Sika MonoTop® mortars as appropriate. Consult Sika Canada for recommendations.

**BUILDING TRUST**  
**CONSTRUIRE LA CONFIANCE**



## Common Steel:

All steel to be coated must be dry, clean and stable before applying the coating. Remove all existing treatments such as coatings, sealers, wax, and contaminants i.e. dirt, dust, grease, oils, and foreign matter, which will interfere with the adhesion of Sikagard® Cor-Pro-470. Prepare steel substrates by appropriate mechanical means, such as abrasive blastcleaning in order to achieve clean white metal profile equivalent to SSPC-SP10, Near White Metal, 2 to 4 mils anchor profile and apply primer immediately, before oxidation of the steel occurs.

## MIXING

### Mixing Ratio (A:B) = 4:1 by volume.

Do not hand mix Sikagard® Duroplast® resin materials; mechanically mix only.

Pre-stir each component separately to ensure that all soft settling is dispersed, solids are evenly distributed and even colours and consistencies are achieved within each component.

Empty Component B in the correct mix ratio to Component A into a suitably sized, clean mixing vessel. Mix the combined components for at least three (3) minutes, using a low-speed drill (200 - 300 rpm) fitted with an Exomixer® or Jiffy type mixing paddle suited to the volume of the mixing container, to minimize entrapped air. Be careful not to introduce any air bubbles while mixing. Make sure the contents are completely mixed to avoid any weak or partially cured spots in the coating. During the mixing operation, scrape down the sides and bottom of the container with a flat or straight edge trowel at least once, to ensure complete mixing. When completely mixed, Sikagard® Duroplast-100 N should be uniform in colour and consistency.

Do not mix more material than can be applied within the working time limits (i.e. Pot Life) at the actual field temperature.

## APPLICATION

Sikagard® Duroplast-100 N may be applied by brush, roller or spray equipment, whichever is the most suitable to the surfaces to be coated or site conditions and limitations. For spray applications, contact spray equipment specialists to determine suitable equipment and for application advice (thinning may be required) contact Sika Canada.

Sikagard® Duroplast-100 N must be applied in a workman-like manner using skilled and trade qualified

applicators. The film thicknesses stated must be produced and complete coverage achieved. After application and prior to drying, remove masking tape in between each coat to avoid 'ripping' in the finished coating and let surfaces dry completely. Following cure of body coats, sand off any rough spots and visible defects with a fine sandpaper (120 - 220 grit), then vacuum and wipe surface to remove all residual traces of sanding dust before the application of the final top coat.

## CLEAN UP

Clean tools & brushes with Sika® Epoxy Cleaner. Once hardened, product can only be removed mechanically.

## LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

## LEGAL NOTES

The information, and in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any recommendations, or from any other advice offered. The information contained herein does not relieve the user of the products from testing them for the intended application and purpose. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request or may be downloaded from our website at: [www.sika.ca](http://www.sika.ca)

### Sika Canada Inc.

Head Office  
601, avenue Delmar  
Pointe-Claire, Quebec  
H9R 4A9  
1-800-933-SIKA  
[www.sika.ca](http://www.sika.ca)

### Other locations

Boisbriand (Quebec)  
Brantford; Cambridge;  
Sudbury; Toronto (Ontario)  
Edmonton (Alberta)  
Surrey (British Columbia)

### Product Data Sheet

Sikagard® Duroplast-100 N  
November 2021, Version 01.01  
020811020030000025