

Sikalastic® Duochem 390 Membrane

(Formerly Duochem 390)

Two-Component, Fast Curing, Solvent Free, Elastomeric and Crack-Bridging, Polyurethane Waterproofing Membrane

Description Sikalastic® Duochem 390 Membrane is a high quality, fast curing, two-component, solvent free, chemically cured, elastomeric, polyurethane waterproofing membrane. It is part of the Sikalastic® Duodeck Parking Deck Waterproofing System and the Sikafloor® Duochem Industrial and Decorative Flooring Systems.

Where to Use Use as part of the Sikalastic® Duodeck Parking Deck Waterproofing System to provide a tough, crack-bridging, watertight membrane prior to overcoating with one of the Sikalastic® Duochem traffic topping wear courses. Typical applications include:

- Multi-storey parking garages.
- Parking decks and ramps.
- Foot bridges and walkways.
- Plaza and rooftop decks.
- Balconies and terraces.

Use as part of the Sikafloor® Duochem Industrial and Decorative Flooring Systems and Sikafloor® Resoclad MRW Type II & III Systems to provide a tough, crack-bridging, watertight membrane prior to overcoating with other flooring products. Typical uses include:

- Mechanical rooms.
- Stadiums and arenas.
- Shower rooms.
- Wherever a waterproof floor is required.
- Crack-isolation flooring systems. When applied at 30 mils (750 microns) and used beneath epoxy flooring systems, it provides crack-isolation properties to minimize the transfer of cracks that may occur in the concrete substrate.

- Advantages**
- Complies with CAN/CSA-S413 -07 (ASTM C957) for Parking Structures.
 - Economical and easy to apply.
 - Highly resistant waterproof elastomer
 - Solvent-free, low odour and fast curing for accelerated turnaround.
 - Pre-measured packaging.
 - Vertical version available.
 - Potential LEED® Canada Credits: MR 6 - Rapidly Renewable Materials and IEQ 4.2 - Low Emitting Material - Paints and Coatings.

Technical Data

Packaging	18 L (4.76 US gal.) pail Bulk packaging also available
Colour	Green
Yield	2 m ² /L (81 ft ² /US gal.) at 20 mils w.f.t. Typically 1 coat is required, though on higher absorbency substrates additional coats maybe required.
Shelf Life	Actual coverage rates and material consumption will depend upon porosity and profile of the substrate. Test areas are recommended to establish correct coverage rates. 1 year in original, unopened packaging under proper storage conditions. Store dry between 5 - 32°C (41 - 89°F). Condition product to between 18 - 30°C (65 - 86°F) before use.
Mix Ratio	A:B = 2:1 per volume



Properties at 23°C (73°F) and 50% R.H.

Solids Content	
By volume	100 %
By weight	100 %
Pot Life, 250 g (8.8 oz)	20 min
Drying Times	
Recoat time	6 hours
Traffic	48 hours
Full cure	7 days
<i>Drying times will vary according to air and substrate temperature and humidity.</i>	
Water Vapour Transmission ASTM E96	
Procedure B	0.028 g/hr/m ² (0.04 grain/hr/pi ²)
Water Vapour Permeability ASTM E96	
Procedure B	0.0013 ng/Pa/s/m ² (0.09 perm in)
Water Vapour Permeance ASTM E96	
Procedure B	0.026 ng/Pa/s/m ² (4.65 x 10 ⁻⁵ perms)
Tensile Strength ASTM D638, Type IV	9.1 MPa (1320 psi)
Elongation ASTM D638, Type IV	435%
Shore A Hardness ASTM D2240	80
Abrasion Resistance ASTM D4060	
Taber Abraser, CS-17 Wheel/ 1000 g (2.2 lb)/1000 cycles	
	6 mg loss
Adhesion to Concrete ASTM D4541	2.4 MPa (348 psi)
Tear Strength ASTM D624	
Die C	38.22 KN/m (218 pounds/linear in)
Water Absorption ASTM D570	0.26%
Chloride Permeability AASHTO T-277	Negligible as per the "WHITING" table
Fire Rating CAN/S 102.2	Class A
Flexibility at Low Temperature ASTM C957	Passes 1.6 mm (1/16 in)
Rapidly Renewable Materials	
(non food vegetable oil)	55%
VOC Content	3 g/L

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.

How to Use

Surface Preparation

General: Surfaces must be clean, dry and sound, with a suitable surface profile. Remove all dust, laitance, grease, oils, tar, asphalt and bitumen, curing compounds, bond inhibiting impregnations, waxes, and any other contaminants. All projections, rough spots, etc. should be ground off to achieve a level surface prior to applying the system.

Concrete: Should be cleaned and prepared to achieve a laitance and contaminant free, open surface profile by blast cleaning or equivalent mechanical means, to achieve a profile equivalent to I.C.R.I.-CSP 3-4. Surface defects should be repaired with an appropriate Sika® repair material before beginning installation.

The compressive strength of the concrete substrate should be at least 25 MPa (3625 psi) at 28 days and at least 1.5 MPa (218 psi) in tension at the time of application of Sikalastic® Duochem 390 Membrane.

Mixing

Pre-mix each component of Sikalastic® Duochem 390 Membrane separately.

Empty component B in the correct mix ratio into the component A container. Mix the combined components for at least 5 minutes, using a low-speed drill (300 - 450 rpm) to minimize entrapping air. Use an Exomixer type mixing paddle (recommended model) suited to the volume of the mixing container. 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, Sikalastic® Duochem 390 should be uniform in colour and consistency.

Mix only that quantity which can be used within its pot life.

Application

Apply Sikalastic® Duochem 390 Membrane at a rate of 2 m²/L (81 ft²/US gal.) using a notched squeegee and backroll to provide a uniform 20 mils wet film thickness. **Note:** At thicknesses less than 20 mils, the opacity of the material is reduced to the degree that the substrate is partially visible through the membrane. This acts as a mechanism for quality control on site. Always ensure that the substrate is not visible through the membrane and that a minimum w.f.t. of 20 mils is achieved. Allow a minimum of 6 hours cure time at 23°C (73°F) prior to installing wear course.



Clean Up Clean all tools and equipment immediately with Sika® Duochem 205 cleaning solvent. One cured, product can only be removed mechanically. Wash hands and skin thoroughly with hot soapy water or use Sika® Hand Cleaner towels.

- Limitations**
- Thickness and re-coat window are critical; system will not work if installed differently.
 - Minimum/maximum ambient and substrate temperature during application and cure: 10°C/32°C (50°F/90°F). Monitoring of ambient and substrate temperature should always be done when applying polyurethane coatings. Note that low temperatures and low humidity will slow down the cure, and high temperatures and high humidity will accelerate it. For applications outside of this temperature range, contact Sika Canada.
 - Substrate temperature must be at least 3°C (5.5°F) above measured dew point temperature.
 - Do not use where concrete moisture content is greater than 4% by weight without consultation with Sika Canada.
 - When concrete moisture content is greater than 4% but ≤ 6% by mass (pbw-parts by weight) when measured with a Tramex® CME or CMExpert type concrete moisture meter, prime with Sika® MT Primer. If moisture content is > 6%, use Sikafloor® 81 EpoCem^{CA}.
 - Do not apply to a porous or damp surface where moisture vapour transmission will occur during application and cure.
 - Minimum age of concrete must be 21 - 28 days, depending on curing and drying conditions.
 - Substrate must be dry prior to application. Do not apply to frosted, wet or damp surfaces. Do not proceed if rain is imminent within 8 - 12 hours of application. Allow sufficient time for substrate to dry after rain or inclement weather to avoid potential for bonding problems.
 - Do not store materials outdoors or exposed to sunlight for prolonged periods.
 - Do not hand-mix or thin with solvents: mechanical mix only.
 - Not suitable for on-grade, unvented metal pan, split/sandwich slab and buried membrane conditions as well as asphalt.
 - Ensure proper ventilation.

Health and Safety Information For information and advice on the safe handling, storage and disposal of chemical products, users should refer to the **most recent Material Safety Data Sheet** containing physical, ecological, toxicological and other safety-related data.

KEEP OUT OF REACH OF CHILDREN
FOR INDUSTRIAL USE ONLY

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, within their shelf life. 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 proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users should always refer to the most recent issue of the Product Data Sheet for the product concerned, copies of which will be supplied on request or can be accessed in the Internet under www.sika.ca.



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