

PRODUCT DATA SHEET

Sikagard® Duochem-7500

Chemical Resistant, Epoxy-Novolac Floor Coating, Topping or Containment Lining

PRODUCT DESCRIPTION

Sikagard® Duochem-7500 is a two-component, high solids, epoxy-novolac coating/topping/ lining which possesses outstanding resistance to strong inorganic acids, concentrated sulfuric acid and oxygenated solvents.

USES

Sikagard® Duochem-7500 may only be used by experienced professionals.

- As a smooth, chemical-resistant lining on concrete or steel substrates subject to concentrated acids.
- Protection of containment tanks, machine bases, plant floors and walls exposed to aggressive chemicals.
- As a broadcast, build-up system to provide a slip resistant and durable wearing surface in pedestrian areas where aggressive chemicals are present.

CHARACTERISTICS / ADVANTAGES

- The material is convenient to proportion, 2:1 by volume, Component A to Component B ratio.
- Sikagard® Duochem-7500 may be applied as a smooth system or as a broadcast buildup system incorporating silica sand.
- Sikagard® Duochem-7500 provides a high build and effective barrier of protection for concrete and steel against a wide range of aggressive substances.
- Sikagard® Duochem-7500 exhibits excellent Adhesion, Hardness, Abrasion Resistance, and Compressive Strength values.
- The systems provide excellent protection for steel and concrete against a wide range of chemicals. See product specific Chemical Resistance Guide located on usa.sika.com or by contacting Sika Technical Services.

PRODUCT INFORMATION

Packaging	3 gal. (11.34 L) unit
Shelf Life	24 months when stored in original, unopened packaging
Storage Conditions	Store dry between 41 °F and 90 °F (5–32 °C)
Appearance / Color	RAL 7046 Tele Grey, RAL 3009 Oxide Red, Clear
Solid content by mass	Approx. 96 %
Solid content by volume	Approx. 95 %

TECHNICAL INFORMATION

Shore D Hardness		Smooth coating	Broadcast system*	(ASTM D-2240)
	28 days	67	72	75 °F (24 °C) 50 % R.H.
* 24 mesh silica sand used for broadcasting.				
Abrasion Resistance		Smooth coating	Broadcast system	(ASTM D-4060)
	28 days	170 mg (CS-17)	833 mg ** (H-22)	75 °F (24 °C) 50 % R.H.
** Standard 4,060 psi (28 MPa) concrete exhibits 3,872 mg loss when tested as per this procedure. Taber Abraser, CS-17 and H-22 Wheels/ 1000 g (2.2 lb.)/1000 cycles				
Impact Strength		Smooth coating	Broadcast system	(ASTM D-3029)
	Microscopic cracks	51.3 lb/in (5.8 J)	15.2 lb/in (1.5 J)	75 °F (24 °C) 50 % R.H.
	Major cracks	54.8 lb/in (6.2 J)	91.9 lb/in (10.5 J)	
Compressive Strength		Smooth coating	Broadcast system	(ASTM D-695)
	28 days	8,380 psi (57.8 MPa)	0.75 1.26	75 °F (24 °C) 50 % R.H.
Tensile Strength		Smooth coating	Broadcast system	(ASTM D-638, Type IV)
	28 days	2,960 psi (20.4 MPa)	1,595 psi (11.0 MPa)	75 °F (24 °C) 50 % R.H.
Elongation at Break		Smooth coating	Broadcast system	(ASTM D-638, Type IV)
	28 days	28 %	8.4 %	75 °F (24 °C) 50 % R.H.
Tensile Adhesion Strength		Smooth coating	Broadcast system	(ASTM D-4541)
	28 days	406 psi (2.8 MPa) substrate failure	520 psi (3.6 MPa) substrate failure	75 °F (24 °C) 50 % R.H.
Coefficient of Friction		Smooth coating	Broadcast system	(ASTM C-1028)
	Dry surface	0.75	1.26	75 °F (24 °C) 50 % R.H.
	Wet surface	0.55	0.94	
Thermal Resistance		Smooth coating	Broadcast system	(ASTM C-531)
	in/in/ °F	-	- 1.25 x 10 ⁻⁵ / °F	75 °F (24 °C) 50 % R.H.
	cm/cm/ °C	-	- 2.26 x 10 ⁻⁵ / °C	

Water Absorption

	Smooth coating	Broadcast system	(ASTM D-570) 75 °F (24 °C) 50 % R.H.
24 h	0.42 %	0.11 %	
7 days	1.02 %	0.34 %	
2 h boiling water	-0.57 %	-0.10 %	

Permeability to Water Vapor

Water Vapor Transmission			(ASTM E-96) 75 °F (24 °C) 50 % R.H.
	Smooth coating	Broadcast system	
Water method	0.48 perm	0.12 perm	
	30 mils film	64 mils film	

Water Permeance

	Smooth coating	Broadcast system	(ASTM E-96) 75 °F (24 °C) 50 % R.H.
Water method	0.48 perm	0.12 perm	
	30 mils film	64 mils film	

SYSTEM INFORMATION**Systems****Broadcast Build-Up System**

Primer Coat	Sikadur® WDE Primer	160 ft ² /US gal. (4 m ² /L)	10 mils w.f.t.
Broadcast Coat	Sikagard® Duochem 7500	80 ft ² /US gal. (2 m ² /L)	20 mils w.f.t.

Aggregate

Oven dried silica sand	0.6–1 lb/ft ²
#32 mesh (spherical) 0.3–0.85 mm or #16 mesh (angular) 0.6–2.0 mm	(3–5 kg/m ²)

Top Coat

Sikagard® Duochem 7500	80–106 ft ² /US gal.
Colored or Clear	(2–2.6 m ² /L) 15–20 mils w.f.t.

Steel Substrates Smooth Coating

1st Coat	Sikagard® Duochem 7500	106 ft ² /US gal. (2.6 m ² /L)	1 mils w.f.t.
2nd Coat	Sikagard® Duochem 7500	106 ft ² /US gal. (2.6 m ² /L)	
	Colored or Clear		

Maximum build per coat for Sikagard® Duochem 7500 on vertical surfaces:
7 mils. Three coats may be required for the smooth coating finish to be produced vertically.

Broadcast Build-Up System

Primer Coat	Sikagard® Duochem 7500	160 ft ² /US gal. (2.6 m ² /L)	15 mils w.f.t.
Broadcast Coat	Sikagard® Duochem 7500	80 ft ² /US gal. (2 m ² /L)	20 mils w.f.t.
Aggregate	Oven dried silica sand #32 mesh (spherical) or #16 mesh (angular)	0.6–1 lb/ft ² (3–5 kg/m ²) 0.3–0.85 mm 0.6–2.0 mm	
Top Coat	Sikagard® Duochem 7500 Colored or Clear	80–106 ft ² /US gal. (2–2.6 m ² /L)	15–20 mils w.f.t.

For Optimum Chemical Resistance for all Systems

Optional 3rd/ Barrier Coat	Sikagard® Duochem 7500 (Clear)	160 ft ² /US gal. (2.6 m ² /L)	15 mils w.f.t.
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Actual coverage rates and material consumption will depend upon porosity and profile of substrates. Allowance must be also made for variation in film thickness or number of coats required to achieve opacity with light (ie white) or bright colors (ie reds and yellows) and dark substrates. Test sections are recommended to establish correct coverage.

APPLICATION INFORMATION

Mixing Ratio	A:B= 2:1 by volume	
Coverage	106 ft ² /gal. (2.6 m ² /l) for neat application; 80 ft ² /gal. (2 m ² /l) for broadcast application	
Pot Life	8.8 oz. (250 g) Approx. 60 min	
Waiting / Recoat Times	Minimum Dry to the Touch - Maximum 24 hours (at 73 °F (23 °C))	
Applied Product Ready for Use	Drying Times	
	Foot traffic	1 day
	Light traffic	2 days
	Full chemical resistance	7 days

Drying times will vary according to air and substrate temperature and humidity.

BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

LIMITATIONS

- Sikagard® Duochem-7500, as a primary or secondary containment coating system, is best installed by skilled and experienced applicators. Consult Sika Technical Services for advice and recommendations.
- Not recommended for use on slab-on-grade concrete substrates.
- Minimum/Maximum substrate temperature; 59/86 °F (15/30 °C).
- Moisture content of a concrete substrate must be <6% (Tramex method) before application of Sikadur WDE Primer otherwise use Sikagard 75 EpoCem or Sikafloor 81 EpoCem as an initial barrier before applying the required smooth or build-up systems.
- Observe minimum application temperature of 59 °F (15 °C) and product conditioning temperatures of 65–86 °F (18–30 °C) as high viscosity coatings exhibit reduced smoothing properties and greater tendency to display application marks at low temperatures.
- Substrate temperature must be at least 5.5 °F (3 °C) above the measured dew point.
- Moisture content of concrete substrates must be < 6 % (Tramex CME/CMExpert type concrete moisture meter measurement) before application of Sikadur® WDE Primer other wise use Sikagard® 75 EpoCem as an initial barrier.
- Do not apply onto porous surfaces where moisture vapor transmission will occur during application.
- Maximum relative humidity during application and cure; 85 %.
- Do not hand mix Sikagard® materials; mechanically mix only.
- Should maximum waiting time between coats be exceeded, abrade surface of applied material (removing all gloss) vacuum-off all dust and debris, and wipe with solvent. Allow solvent to completely flash off and dry before proceeding with subsequent coats.
- Protect from dampness, condensation and water contact during the initial 24 hour cure period (curing times will be lengthened at cold temperatures and protection should therefore remain for longer).
- Not recommended for areas subject to frequent thermal cycles.
- Surface may discolor in areas exposed to ultraviolet light.
- Not designed as an aesthetic product.

ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

APPLICATION INSTRUCTIONS

SURFACE PREPARATION

Concrete: Concrete substrates must be clean and sound. Remove any dust, laitance, grease, oil, dirt, curing agents, impregnations, wax, foreign matter, coatings and any loose particles from the surface by appropriate mechanical means, in order to achieve a profile equivalent to ICRI CSP 3-4. The compressive strength of the concrete substrate should be at least 3,500 psi (24 MPa) at 28 days and at least 215 psi (1.5 MPa) in tension at the time of application of Sikadur® WDE Primer & Sikagard® Duochem-7500.

Steel: All steel to be coated must be dry, clean and stable before applying the primer or 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® Duochem-7500. Prepare steel substrates by appropriate mechanical means such as abrasive blast-cleaning. Achieve clean white metal profile equivalent to SSPC-SP10, Near White Metal, 2 to 4 mils anchor profile. Apply primer or coating immediately, before oxidation of the steel occurs.

MIXING

Thoroughly pre-mix each component separately to ensure that all solids are distributed throughout and components are consistent within themselves. Empty the complete contents of Component B into the partially filled Component A container. When mixing a partial unit, ensure that the components are proportioned in the correct ratio and empty both into a suitably sized, clean mixing vessel.

Mix the combined components for at least 3 minutes, using a low-speed drill (200–300 rpm) to minimize entrapping air. Use an Exomixer type or Jiffy 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, Sikagard® Duochem-7500 should be uniform in color and consistency. Mix only that quantity which can be used within its pot life.

Never use a thickening agent such as Sikafloor® Extender T, Cabosil or any other filler to increase product viscosity as this will greatly reduce chemical resistance.

APPLICATION

Concrete:

Smooth Coating:

Primer Coat: Apply Sikadur® WDE Primer onto prepped concrete substrates using a brush, roller or squeegee to a uniform coverage without ponding. Refer to the current product data sheet for Sikadur® WDE Primer for published recommendations and further information.

1st Coat: Once the primer is tack free apply Sikagard® Duochem-7500 using a brush, roller or squeegee to a uniform coverage without ponding.

2nd Coat: Once first coat is tack free, apply a second coat of Sikagard® Duochem-7500 using a brush, roller or squeegee to a uniform coverage without ponding.

Broadcast Build-Up System:

Primer Coat: Apply Sikadur® WDE Primer onto prepped concrete substrates using a brush, roller or squeegee to a uniform coverage without ponding. Refer to the current product data sheet for Sikadur® WDE Primer for published recommendations and further information.

Broadcast Coat: Once the primer is tack free apply the

broadcast coat of Sikagard® Duochem 7500 using a notched squeegee or trowel and backroll to a uniform coverage. Broadcast the selected sand (shape and size to be selected in accordance with required texture/slip resistance) into the wet resin to rejection.

Top Coat: Once the broadcast coat has sufficiently cured to allow foot traffic, sweep-up and vacuum-off all loose, unbounded sand. Apply the top coat of Sikagard® Duochem-7500 using a squeegee, followed by back rolling to provide a uniform texture and finish.

Steel: Priming, consolidation or sealing of common steel substrates with Sikadur® WDE Primer is not usually required under typical circumstances. However, due to variations in steel quality, surface condition, surface preparation and ambient conditions, reference test areas are recommended to determine whether priming is required to prevent the possibility of issues with adhesion, compatibility, or other defects. Consult Sika Technical Services for advice.

Application of Sikagard® Duochem-7500 onto properly prepared steel surfaces is typically the same procedure as outlined above for smooth coatings and broadcast build-up systems onto concrete, excluding the use of Sikadur® WDE primer, unless determined otherwise.

See Typical Data section of this product data sheet above for coverage rates, specific application thicknesses and number of coats recommended.

OTHER RESTRICTIONS

See Legal Disclaimer.

LEGAL DISCLAIMER

- KEEP CONTAINER TIGHTLY CLOSED
- KEEP OUT OF REACH OF CHILDREN
- NOT FOR INTERNAL CONSUMPTION
- FOR INDUSTRIAL USE ONLY
- FOR PROFESSIONAL USE ONLY

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at usa.sika.com or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

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Product Data Sheet

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