HydraTech PolySpray SS-200

Issue 2.10

A flexible, 100% solids, high build lining system for pipeline rehabilitation and other demanding applications

Product Description

PolySpray SS-200 is a rapid setting, elastomeric polyurea coating, providing a tough, monolithic system that is abrasion and impact resistant. PolySpray SS-200 is designed for severe service applications requiring resistance to mechanical stress and is ideally suited for the rehabilitation of sanitary waste pipe, storm drain culverts and secondary containment applications. Polyspray SS-200 is further recommended for structures subject to substantial movement.

PolySpray SS-200 can be used in the rehabilitation of pipelines ranging in diameters from 6”(152mm) to greater than 120”(3050mm) and can be applied in thicknesses from 0.25”(6mm) to greater than 2”(50mm) in a single pass.

Limitations

Not recommended for;

Structures requiring significant structural support.

Health & Safety

Consult product MSDS supplied separately.

Shelf Life & Storage

The product has a shelf life of six months when stored in the original unopened containers and not subject to temperatures below 60°F and above 130°F.

Product Codes

9820-00A81 PolySpray SS-200 ISO Drums
9820-00A91 PolySpray SS-200 ISO Totes

9820-02B81 PolySpray SS-200 Resin Lt Gray Drums
9820-02B91 PolySpray SS-200 Resin Lt Gray Totes
9820-05B81 PolySpray SS-200 Resin Mid Blue Drums*
9820-05B91 PolySpray SS-200 Resin Mid Blue Totes*

(* other colors available to minimum order quantity)

Physical Properties

RESIN Viscosity	400 – 600 cP @ 77 °F
ISO Viscosity	300 – 500 cP @ 77 °F
Gel Time:	5 sec.
Tack Free:	10 sec.
Back in Service:	30 minutes

Shore Hardness	ASTM D2240	58D
Tabor Abrasion Resistance (CS17, 1000g, mg of loss/1000 cycles)	ASTM D4060	<2

Tensile Properties (Type IV, min 0.1” thick)

Tensile Strength (psi)	ASTM D638	2,800
Tensile Modulus (psi)	ASTM D638	16,500
Elongation (%)	ASTM D638	200
Tear Strength (pli)	ASTM D624	455

Flexural Properties (3 point, 2.5” span/min 0.1” thick)

Flexural Modulus (psi)	ASTM D790	33,000
Flexural Strength (psi)	ASTM D790	1,500
MVT (perm. In)	ASTM D1653	0.010
CTE (in/in/°C)	ASTM E381	4×10^{-5}
Dry Heat Resistance	ASTM D2485	TBD

Adhesion	ASTM D4541
Concrete (psi)	350 – 400 (Concrete Failure)
Steel (psi)	> 2000
Chemical Resistance	ASTM D1308 (7 day spot test)
10% Hydrochloric acid	No effect
5% Acetic acid	No effect
Motor oil	No effect
10% Sodium hydroxide	No effect

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SURFACE PREPARATION & APPLICATION

Concrete

Unless otherwise recommended by HydraTech Engineered Products LLC, cure new concrete a minimum of 28 days before application of PolySpray.

New concrete generally requires a minimum 28 day cure time under favorable environmental conditions to achieve its design strength. PolySpray should not be sprayed over damp or green concrete, as this may reduce adhesion and increase the potential of water vapor and/or gas caused blisters.

Prior to application of coatings, check for the presence of moisture beneath the surface according to the Plastic Sheet Method described in ASTM D4263. Other appropriate alternate test methods may be submitted for consideration. Conduct the test on representative sections of each pour. If moisture is present, consult HydraTech Engineered Products LLC for required action.

Remove surface hardeners, oil, grease, dirt, efflorescence, laitance, or other foreign contaminants before applying coatings. Remove curing membrane (if any), if it is determined that the membrane would interfere with the adhesion or performance of the applied PolySpray products. The concrete surface also needs to be free of standing water.

If portions of the existing coating are sound and intact, determine the compatibility of PolySpray products with the existing coating in accordance with ASTM D5064. If PolySpray products are incompatible with the existing coating, the existing coating must be removed using the methods described below.

The compressed air supply used for blast cleaning shall be completely free of all oil, water and other contaminants and provide the required volume of air at 100psi or greater. Abrasives used shall be clean, a uniform grade and of an appropriate size to obtain the specified surface finish and profile. Do not use contaminated abrasive. Water used with high-pressure water blasting or wet abrasive blasting shall be clean potable water.

A surface texture similar to that of medium-coarse sandpaper should be attained.

Thoroughly clean all blasted surfaces to remove all dust and debris after dry blasting, or to remove all water, sludge and debris after wet blasting. Vacuum cleaning a roughened concrete surface is the only known effective method of removing dust from deep pits, cracks, crevices, bug holes, etc. and is considered a mandatory procedure.

Use coving products or mastics to eliminate 90° internal angles and corner sections. Repair and remove or fill cracks, voids, honeycombs, fins and other surface irregularities using a recommended patching material. Grind all form ties or other metallic protrusions below the surface and then patch or fill.

All expansion joints and moving cracks must be isolated by with a bridging material to eliminate stresses during cure.

A concrete primer shall be used to ensure adhesion of PolySpray products and to prevent pinholes caused by out gassing. HydraTech offers and recommends PolyPrime for most applications. The primer shall be applied as per the manufacture's instructions.

Steel and other Ferrous Substrates

Prepare in accordance with Steel Structures Painting Council Surface Preparation SSPC-SP6 to SP10 near-white metal blast cleaning to give a 3 - 4 mil profile to create a surface finish for PolySpray to chemically and mechanically adhere to.

All work blasted should be coated the same day.

Steel surfaces must also be free from rust, salts, dirt and any other contaminants. Any welds shall be free of voids and spurs. Sharp protrusions should be ground smooth. Check for soluble salts in all appropriate locations and take remedial action if any are found.

Be sure to test the surface conditions prior to application of the PolySpray system. Do not apply PolySpray products when the ambient temperature is less than 5°F above the dew point.

Beware of the potential for cold wall effect and undertake appropriate preventative measures when required.

Equipment Recommendations

Gun	Gusmer GX7-400 (mechanical purge)	
	453 Module (drilled to 0.025" on both ports)	
	212 Tip	
Pump	Graco H20/35 Pro	
	Component temperature	155°F
	Hose temperature	155°F
	Pressure	2000psi

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