


HydraTech PolySpray FS-250

A 100% solids fully structural lining system for pipeline rehabilitation and other demanding applications

Product Description	Physical Properties	
<p>PolySpray FS-250 is a spray applied, rapid curing, RIGID liner that displays superior physical properties, high chemical resistant, abrasion resistance and a high degree of toughness. PolySpray FS-250 has been designed to exceed all physical properties required by ASTM F1216 for the rehabilitation of existing pipelines. Exceeding these requirements results in one of the strongest, most chemical resistant rehabilitation liners in today's worldwide marketplace. In addition to these superior physical properties, the FS-250 system's installation is bonded and results in zero annulus with host pipe, unlike thermosetting resin liners (CIPP) or rigid liners used in slip lining.</p>	<p>RESIN Viscosity 700 - 900 cP @ 77°F ISO Viscosity 600 - 800 cP @ 77°F</p>	
<p>The rapid cure allows for the PolySpray FS-250 to be applied at high builds on vertical and overhead surfaces. Film builds are determined by HydraTech's engineering staff to provide the required structural support. Typical film builds can range from 3mm – 30mm depending of the structural requirements.</p>	<p>% Solids: 100 (zero VOCs) Gel Time: 6 sec. Tack Free: 10 sec. Back in Service: 30 minutes</p>	
<p>The PolySpray FS-250 is designed to provide the optimal physical properties with minimal tendency for brittleness.</p>	<p>Shore Hardness ASTM D2240 D75 Taber Abrasion Resistance ASTM D4060 <270 (H18, 1000g, mg of loss/1000 cycles)</p>	
<p>Limitations</p> <p>Not recommended for;</p> <p>Substrates subjected to significant movement.</p>	<p>Tensile Properties (Type I, min 0.1" thick)</p>	
<p>Health & Safety</p> <p>Consult product MSDS supplied separately.</p>	<p>Tensile Strength (psi) ASTM D638 6,000 Tensile Modulus (psi) ASTM D638 100,000 Elongation (%) ASTM D638 15</p>	
<p>Shelf Life & Storage</p> <p>The product has a shelf life of six months when stored in the original unopened containers and not subject to temperatures below 70°F and above 110°F.</p>	<p>Flexural Properties (3 point, 2.5"span/min 0.1"thick)</p>	
	<p>Flexural Modulus (psi) ASTM D790 250,000 Flexural Strength (psi) ASTM D790 9,300</p>	
	<p>CTE (in/in/°F) ASTM E831 107x 10⁻⁶</p>	
	<p>Adhesion ASTM D4541</p>	
	<p>Concrete (psi) 350 – 400 (Concrete Failure) Steel (psi) > 2000</p>	
		

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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 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	Graco 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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