

Technical
Data Sheet



Willamette Valley
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Partnering through
service, innovation, and
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FastPatch HPRG Type-1

High Performance Rail Grout

DESCRIPTION

FastPatch HPRG Type-1 is a polyurethane grout system designed for embedded rail applications. HPRG Type-1 provides electrical isolation and vibration/sound dampening with minimal deflection. HPRG Type-1 is designed to be meter dispensed and is provided in totes, drums, or pails.

WHERE TO USE

- Embedded Track –between rail and concrete
- Special Track–intersection and stations
- Structures–parking garages and tunnels
- Maintenance–concrete repair

FEATURES AND BENEFITS

- Rapid cure— fast return to service
- 100% Solids, no odor, environmentally friendly
- Excellent concrete adhesion
- Electrical Isolation
- Sound and Vibration Dampening
- Set Time—fast or slow set times available

PACKAGING

- 5-Gallon (19-Liter) Pail
- 50-Gallon (190-Liter) Drum
- 200-Gallon (757-Liter) Tote

COLOR

S Gray

SHELF LIFE

1 year when properly stored.

STORAGE

Store and ship this product in clean, dry, low-humidity, and shaded or covered environments between 50 and 90°F (10-32°C)

TYPICAL PROPERTIES

Adhesion to Steel, psi (MPa), ASTM D 4541	750 (5.17)
Adhesion to Concrete, , psi (MPa), ASTM D7234	500 (3.4)
Compressive Set, %, ASTM C 395	<0.5%
Compressive Modulus, at 250 psi, ASTM C 575	5%
Dielectric Strength, volt/mil, ASTM D 149	>410
Dynamic Deflection, ASTM D 5992	No Failure
Volume Resistivity Extended with WVCO Approved Gravel, ohm-cm, 75° F 50% RH, ASTM D	1.5 x 10 ¹²
Volume Resistivity, Non-Extended, ohm-cm, 75° F 50% RH, ohm-cm, ASTM D 257	1.75 x 10 ¹²
Gel Time, minutes, 70° F (21°C)	8
Tack Free Time, minutes, 70° F (21°C)	60
Elongation, %, ASTM D 412	80
Hardness, Shore A, ASTM D 2240	85
Tensile, psi (MPa), ASTM D 412	800
Recoat time, min. / max, hours, 70° F (21°C)	60 / 24
Service Temperature, ° F (° C)	-40 to 185 (-4.4 to 85)
Viscosity, cps, ASTM D 4878, Mixed	2,000
VOC, lbs/gal (g/L), ASTM D 2369	0

Chemical Resistance, ASTM D471, 75°F, 7 day immersion

Chemical	% Wt. Change	% Vol. Change
Water	<0.1	<0.1
10% NaCl	<0.1	0.7
10% CaCl ₂	<0.1	0.7
5% H ₂ SO ₄	<0.1	0.5
5% NaOH	<0.1	1.3
ASTM Oil #1	1.75	2.0
ASTM Oil #3	2.0	2.5
ASTM Fuel A	2.2	1.8

APPLICATION INSTRUCTIONS

SURFACE PREPARATION:

Concrete

1. The concrete should be structurally sound, clean, and the surface should be dry. HPRG Type 1 can be applied to concrete newer than 28 days and in some cases as soon as 24 hours from when the concrete was poured. Contact your WVCO representative for more details.
2. Concrete surfaces should be free of dirt, moisture, loose particles, oil, asphalt, tar, paint, wax, rust, waterproofing and curing/parting compounds, membranes, and any previously installed materials or other foreign matter. Laitance and efflorescence must be removed prior to installation.
3. Clean concrete surfaces by grinding, abrasive blasting, wire brushing, saw cutting, or other appropriate method.

Steel

1. Steel surfaces must be cleaned before blasting according to SSPC-SP1. Remove any sharp edges and other surface imperfections.
2. Dry abrasive blast surface according to SSPC SP-6/NACE No. 3 Commercial Blast (minimum).
3. Test the surface for non-visible soluble salt contamination according to NACE 6G186. If necessary treat with CHLOR*RID or equivalent salt remover until less than 3ug/cm² is detected.

PRIMING:

1. Priming all surfaces is always recommended as it will optimize adhesion and durability. Prime with POLYQuik® POLYPRIME or other WVCO primer. Contact WVCO for more details about appropriate primer selection.
2. Refer to the primer Technical Data Sheet and the [POLYQuik® Primers Installation Guideline](#) for detailed primer application instructions.

AGGREGATE:

1. Only use WVCO approved aggregates with HPRG Type 1. Contact your WVCO representative for details on approved sources.
2. Aggregate is typically 3/8" clean and dry pea gravel. Other aggregate sources may be qualified by request at WVCO R&D.
3. For applications that require aggregate, ensure aggregate is used to the full depth of the HPRG installation to minimize shrinkage and thermal expansion/contraction.
4. Topping sand may be used for appearance or for more surface traction. Apply topping sand to refusal when the HPRG surface has started to cure but is still tacky.

PROCESSING:

1. Use WVCO/Pre-Tec (or equivalent) meter at 4:1 volume ratio. Always use approved static mix tubes (13mm diameter, 32 elements). For specific questions about your metering equipment contact your WVCO representative or customer support.
2. Whenever possible, condition all HPRG Type 1 components (resin, iso, and aggregate) to 70°F (21°C) before application.
3. At ambient temperatures ≤40°F (5°C), HPRG components may be conditioned to 100°F (38°C) to aid in cure speed.
4. Mechanically mix the HPRG resin component for at least 30 minutes or until well mixed before application. It is particularly important to mix the HPRG resin if it has been allowed to sit in storage for an extended period of time.
5. Test the performance of the meter and HPRG before applying into the work area. It is recommended a small portion of material is dispensed into a cup and the material cure time and color/mixing monitored for uniformity and conformance at the start of each work period. Do not proceed with application into the work area if the initial test does not cure properly.
6. Static mix tubes should be replaced if application stops for longer than 2 minutes or if material flow is restricted.
7. Rail systems and geometries are varied. It is the responsibility of the installer to determine the most appropriate application method for the specific work project parameters.

NOTE: HPRG Type 1 is cured to the touch ('tack-free') by 1 hour at 70°F (21°C). Colder temperatures will extend the cure time, warmer temperatures will shorten the cure time.

NOTE: HPRG Type 1 has aromatic components and discoloration from UV exposure over time may occur; physical properties are typically unaffected.

HEALTH AND SAFETY

Before handling, you should become familiar with the Safety Data Sheet (SDS) regarding the risks and safe use of this product. To obtain an SDS, please call 800-333-9826 or send an email to: msds@wilvaco.com.

DISCLAIMER OF WARRANTY

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