



Perma-Patch, LLC

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PRODUCT INFORMATION

6690 ColdFuze

Type II Joint & Crack Sealer

BLACK or GREY

GENERAL: ColdFuze 6690 is a single-component, ready-to-use, ultra-low modulus, pourable, neutral cure elastomeric emulsion which exceeds the performance and durability characteristics of hot melt ASTM D6690 sealants AND conventional silicone. It provides a lasting and flexible seal with the ease of installation of self-leveling pourable materials. **ColdFuze 6690 is the ONLY product that meets both ASTM D6690 (Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements) and ASTM C920 (Standard Specification for Elastomeric Joint Sealants).** **AVAILABLE IN BLACK OR GREY.**

ColdFuze 6690 can be used in new highway construction or as a remedial or repairs sealant in old construction. In new construction, it provides a long-lasting seal that will prolong the life of the pavement and prevent water and noncompressibles from entering into the joint and damaging the pavement and foundation.

For use in repair or remedial applications where other joint sealing materials have failed because of excessive movement or poor weatherability. 6690 ColdFuze Sealant can be used to seal irregularly shaped and/or spalled joints. It offers outstanding weathering resistance, remains flexible down to temperatures lower than -20°F (-29°C), is jet-blast resistant and will maintain field serviceability when exposed to intermittent fuel and oil spills. It bonds strongly to asphalt or concrete without the use of a primer.

6690 ColdFuze is easily applied to joints/cracks using manual methods or an inexpensive double-diaphragm pump like the Perma-Patch Drum Pump. The self-leveling characteristics ensure that the required joint wetting for development of appropriate adhesion occurs during application, no tooling is required.

ADVANTAGES: 6690 ColdFuze has several advantages over traditional hot melt sealants and silicones.

- **NO** wait time to return traffic, just proper traffic control procedures to provide adequate safety from moving vehicular traffic
- Tolerates limited dampness of surface or in joint/crack
- **NO** “speed bumps” created when pavement expands; **NO** snow plow damage with sealant only in joint/crack and recessed
- Cleaning can be completed with just water in uncured state – **NO SOLVENTS** needed before curing
- Lower cost barrier to entry with ability to use double-diaphragm drum pump and **NO** costly melter repairs
- Greater ability to withstand high heat environments without softening, tracking or “bleeding” through
- Used for both joints/seams and cracksealing (NO routing or backer rod installation required on cracks)
- **Greater Shape Factor (depth/width)** of up to 1.5 on reservoirs up to 2” wide and significantly higher on reservoirs less than 1” wide versus 1.0 for hot melt and 0.5 for silicone
- Surpasses D6690 Type II requirements with Type IV performance in extremely cold environments
- Meets “Rapid Cure” skin-over and complete cure time ASTM D5893 silicone specification
- Pourable and pumpable
- Is self-adhesive (unlike silicone) allowing additional product to be applied to correct mistakes

SPECIFICATION CONFORMANCE: 6690 ColdFuze is formulated for highway, airport, parking structures, bridge, driveway, walkway and saw cut joints/seams or cracks where movement occurs. 6690 ColdFuze meets **ASTM D6690/AASHTO M-301 (Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements) Type II** and **ASTM C-920 (Standard Specification for Elastomeric Joint Sealants) Type S, Grade P, Use T, Class 50.**

TYPICAL 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.

Shelf Life	12 months in original unopened container. A product skin may form in pails and drums, remove prior to use.
Storage Conditions	Store in unopened containers at temperatures below 100°F (37.8°C) out of direct sunlight. KEEP FROM FREEZING.
Packaging	55 gal (208.3 L) drum; 5 gal (18.9 L) pail; 1 gal (3.8 L) jug/4 per case
Physical	Non-volatile 70%; Penetration (ASTM D1850) 25 dmm; Viscosity Black ~95-105; Gray ~75-85 Krebs Units

ASTM D6690, C920 Physical Requirements

Cone Penetration, dmm, 25°C (D217), 90 max
Softening Point, °F (D36), 170 min
Resilience, % (D5329-10), 60 min
Bond Test, non-immersed, 3 Cycles at 50% Extension, -29°C (D5329-8)
Asphalt Compatibility (D5329-12)
Flow, 93.3°C (D5329), 3 mm max
Sieve Test (#8 Sieve), T59M, %
Flexibility, (D3111), °C
Tensile Adhesion, (D5329), %
Specific Gravity, 25°C
Rheological Properties, (C639 Type I)
Extrusion Rate, mL/min (C1183A); ≥10
Hardness, Type 00 & A-2 Durometers, 23°C (C661, Use T₁); 30 & 25 min
Effects of Heat Aging, 21 days, %, 70°C (C1246); 7 max
Tack Free Time, hours (C679); 72 max
Skin-Over Time, at 25°C (77°F), 50% R.H., 60 mins max
Adhesion & Cohesion under cyclic movement, in₂, (C719); 1.5 max
Adhesion in Peel, lbf (C794); 5 min
Adhesion in Peel, 200 hrs UV Exposure, lbf (C794); 5 min
Adhesion in Peel, % Bond Loss, (C794); 25 max
Stain and Color Change, (C510)
Effects of Accelerated Weathering, 250 hrs (C793); No Cracks; No Cracks on Bend
Effects of Accelerated Weathering, 5000 hrs (D5893); Bending @ -29°C

6690 ColdFuze Results

25
>400
66
Pass
Pass
No Flow
0.0
-26
Black-549; Grey-423
Black 0.9871; Grey 1.245
Smooth & Level, No Bubbling
1,930
87 & 39
0.69; No Cracking or Chalking
3
20 minutes
1.125
12.9 Dry; 9.6 Saturated
16.7 Dry; 13.4 Saturated
0.0 Dry; 0.0 Saturated
No Visible Change
No Cracks; No Cracks
No flow, tackiness, oil like film, blister, voids, loss of rubber properties; No cracks on bend

INSTALLATION:

Joint Design: May be used in any joint design in accordance with accepted highway/engineering practice. The number of joints and the joint width should be designed for a recommended joint movement of +50% and -50% at time of installation. For best results the sealant depth to width ratio should not exceed 2 to 1 (i.e., 2-inches deep to 1-inch wide). Maximum crack or joint width should not exceed 2 inches (50mm). To control depth and sealant usage, a backer rod can be used. **Sealant should be completely filled to pavement surface.** After curing sealant will be recessed 3/8-1/4" below pavement surface.

Surface Preparation: For good adhesion, the joint interface must be sound, clean, dry, frost free, free of any oils, greases or incompatible sealers, paints or coatings that may interfere with adhesion. Portland cement joints should be fresh saw cut or sand blasted and blown clean with oil free compressed air. Remove all loose debris, including dirt, sand, dust and chunks of concrete. Use forced air and/or a broom or hand brush to sweep the area down. In repair or remedial work where previous sealant materials have failed, care should be taken to completely remove the failed sealant from the joint faces. For good adhesion, prepare the joint interface by ensuring it's clean, dry, and free from contaminants like oils or incompatible coatings. Use fresh saw cuts or sandblasting for Portland cement joints and remove all loose debris. In repairs, thoroughly remove any previously failed sealant materials from the joint faces.

Application: Stir or shake lightly if in pail or jug. In drums, circulate product for 5 minutes with dispensing equipment before application. Ready to use; apply using manual methods. A double diaphragm pump such as the **Perma-Patch's Drum Pump** is recommended for large volume applications.

Do not open product container until preparation work has been completed. **6690 ColdFuze** does not require the use of saw cutting or backer rod installation on cracks. However, it is imperative the crack reservoir is filled completely full of sealant to avoid air pockets and cohesion loss. The use of a rubber V or U shaped squeegee will help ensure the complete filling of the reservoir and promote better adhesion. Fill crack completely. Before it sets up, scrape excess from surfaces using a rubber V or U-shape squeegee.

Traffic can be returned to roadways immediately. It is not necessary for sealant to be cured before releasing vehicular traffic. Before sealcoating parking lots, allow product to form skin. **6690 ColdFuze** will cure under good conditions in 8 to 24 hours, depending on weather and size of reservoir. Additional curing time or a second application may be required for deeper cracks.

HANDLING AND LIMITATIONS:

- Keep from freezing. Do not store in direct sunlight or where temperatures exceed 100°F (37.8°C).
- Do not use when temperature is below 40°F (4.4°C), raining (or in forecast), or when there is a chance of temperatures below 0°C (32°F) within twenty-four (24) hours of placement.
- Not recommended for continuous water immersion. Do not allow sealant to come in contact with solvent during cure.
- Wash tools in water. Use paint thinner if material has dried.\

Coverage

- For **COVERAGE** estimation purposes – approximately 100 linear feet (30.5 M) of ½" X ½" (12.7 mm X 12.7 mm) depth reservoirs per 1.3 gallons of product.

WARRANTY: This information is to assist customers in determining if this product is suitable for the proposed application. Since method of application and on-site conditions are beyond our control and can affect performance, Perma-Patch, LLC makes no other warranty, expressed or implied, including warranties of MERCHANTABILITY and FITNESS FOR A PARTICULAR PURPOSE, with respect to Sealants. Perma-Patch, LLC sole obligation shall be at, its option, to replace, or to refund the purchase price of the quantity of Sealant proved to be defective and Perma-Patch, LLC shall not be liable for any installation cost, loss or damage, or any other cost.