

# InjectPro-PM3811-UltraSeal

## Acrylate injection resin

### CSI Div. 03 + 31

03 64 00 Injection Grouting  
 31 73 16 Tunnel Grouting  
 31 32 23.16 Pressure Grouting Soil Stabilization

### Product Description:

Aquafin's InjectPro-PM3811 Series of hydrophilic acrylate injection resins are formulated with superior sealing characteristics. The InjectPro-3811 acrylates are environmentally safe and include:

- InjectPro-PM3811-SoilStabilizer
- InjectPro-PM3811-Flex
- InjectPro-PM3811-Fast
- InjectPro-PM3811-UltraSeal

InjectPro-PM3811-UltraSeal is specifically formulated for crack injection as it is not subject to wetting and drying cycles, and therefore do not shrink in the absence of moisture.

### Advantages:

- Controlled, extended setting time range: 4 min - 14 minutes
- Ideal for crack injection, does not shrink in dry environments!
- Free from acrylamides, easy clean-up, non hazardous waste removal
- Certified to NSF/ANSI 61 for potable water

### Typical Applications:

- Crack injection for construction joints, expansion joints, cold joints
- Concrete precast segments
- Creation of grout curtains
- Soil stabilization behind brick and concrete structures

### Product Installation:

Refer to the Aquafin InjectPro Grouting Guideline for full instructions.

Injection can be accomplished from the inside of the building by drilling through the structure into the void space and soil back-filled areas.

Packers are placed into pre-drilled holes and the resin is injected using the AQUAFIN-2K-Inject-Pump, or similar, under low pressure at a 1:1 ratio by volume. Start pumping at the lowest pressure setting available and increase gradually as needed.

### Mixing Instructions:

Reaction times (gel times) can be adjusted so that the material will cure in time to provide optimum performance depending on the structure and nature of the repair.

**Component A "Resin":** Pour desired amount of PM3811-UltraSeal Resin into a clean bucket and add appropriate amount of Accelerator based on desired set time (refer to Gel Time Table below) and mix well.

**Component B "Hardener":** Pour clean, potable water into a separate clean bucket, in the exact equal amount as the PM3811-UltraSeal Resin. Add Hardener Powder based on Gel Time Table below and mix well.

Pumping is 1:1 by volume, example mixing scenario:

<b>Technical Properties:</b>	
<i>Comp-A (PM3811-UltraSeal + Accelerator) Mixable with water in any ratio.</i>	
Physical state	Clear liquid
Density	1.0 - 1.2 g/ml
Viscosity	8 - 10 mPa-s
<i>Comp-B (Hardener Powder + water) Mixable with water in any ratio.</i>	
Physical state	Clear, low viscous liquid
Density	1.0 g/ml
Viscosity	~2 mPa-s
VOC content	0 g/L
<i>Accelerator Mixable with water in any ratio.</i>	
Physical state	Blue, viscous liquid
Density	1.0 - 1.2 g/cm <sup>3</sup>
Viscosity	~3 cPs
<i>Hardener Powder (HP)</i>	
Physical state	crystalline dry chemical
Density	2.6 g/cm <sup>3</sup>
Bulk Density	1.1 - 1.2 g/cm <sup>3</sup>
Solubility	545 g/L at 20°C
<i>Mixed Product - InjectPro-PM3811-UltraSeal</i>	
Appearance	yellowish
Viscosity	2 - 5 mPa-s
Elongation	> 100%
Swelling	70 - 80%

- Comp A: Measure 100g PM3811-UltraSeal and add accelerator 5g (=5%) Total: 105g
- Comp B: Measure 5g (=5%) of the Hardener Powder and add 100g water (HP + water = 105g).

### Reaction Times:

The reaction time for polymerization depends on the ambient temperature and the amounts of accelerator and hardener powder used to mix the components.

- Reaction times can increase due to changes in the temperatures of the material in the soil. (Higher temp. = faster or shorter gel time. Lower Temp. = slower or longer gel time.)
- pH of water used to mix Component-B can affect cure times. Potable water should be used for mixing material and for cleaning pump.
- Avoid mixing large quantities (full pails). This will speed up the gel time.

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Reaction time is slower in a thin layer (e.g. in a crack).

## General calculation guideline:

If temperature is increased in increments of 10°C (18°F), gel time will be cut in half. If temperature is decreased by increments of 10°C (18°F), gel time doubles.

Average Gel Times			
Accelerator	Hardener Powder	Gel Time	+/- %
5 (%)	5 (%)	4 - 5 min	20
4 (%)	4 (%)	5 min	20
3 (%)	3 (%)	5 - 7 min	20
2 (%)	2 (%)	14 min	20

\*Times quoted are from laboratory data, reaction times may vary in the field. Exact reaction times should be determined on site using "cup tests" before starting injection work.

## Cleaning:

The pump and accessories can easily be flushed and cleaned on the jobsite by using normal detergent and clean water. Hardened material can be softened with mild cleaners (i.e., Simple Green, 409, etc.) and easily removed mechanically.

## Packaging:

InjectPro-PM3811-UltraSeal is supplied in a kit containing:

- Component-A: 5 gal (44.9 lb) pail (19 L/20.4 kg) liquid
- Accelerator: 1 quart (2.25 lb) bottle (0.9 L/1.02 kg) liquid
- Component-B:
  - Hardener: 2.2 lb (1.02 kg) powder,  
Mix with 5 gal (19 L) water (provide on site)

Component-A is ready for use after being mixed with the accelerator supplied. Component-B is made up at the jobsite by dissolving the hardener powder in potable water.

InjectPro-PM3811-UltraSeal is injected using a 2-component pump with stainless steel mixing parts, such as the AQUAFIN-2K-Inject-Pump.

## Shelf Life:

Shelf life is 12 months in closed, original packaging, stored in a dry, cool place.

## Storage:

InjectPro-PM3811-UltraSeal should be stored in a dry enclosure in closed containers at temperatures between 50°F to 86°F. (10°C to 30°C). Protect product and packaging from inclement weather. **CAUTION: Do not let the accelerator and hardener powder come in contact during storage. Store individual components separately from each other.**

## General Information:

All details in particular to the suggestions for the processing and use of the product is based on our present knowledge and experiences at the time of printing. Depending on specific applications, in particular regarding substrates, processing and environmental conditions may affect the final results.

## Safety and Handling:

InjectPro-PM3811-UltraSeal contains no toxic components. Acrylate-ester, acrylic monomers can irritate the eyes and skin. Sensitivity to the product is possible if it comes in direct contact with the skin. During use wear protective clothing, gloves, and appropriate safety goggles consistent with OSHA regulations. Avoid eye and skin contact. Do not ingest. Refer to Material Safety Data Sheet for detailed safety precautions. Hardened PM-3811-UltraSeal is environmentally safe and can be disposed of as normal household waste. **CAUTION: Do not use aluminum equipment near the accelerator and hardener powder, they are not compatible with aluminum. Refer to MSDS. KEEP OUT OF REACH OF CHILDREN.**

LIMITED WARRANTY: AQUAFIN, INC. warrants this product for a period of one year from the date of installation to be manufactured free of defects and to be consistent with its technical properties as stated in our current Technical Data Sheet. This product must be used as directed and within its stated shelf life. AQUAFIN INC. will replace or at our discretion refund the purchase price of any product, excluding cost of labor, which is proven to be defective. Our product recommendations are based on industry standards and testing procedures. It is the buyer's obligation to test the suitability of the product for an intended use prior to using it. We assume no warranties written, expressed or implied as to any specific methods of application or use of the product.

## For Professional Use Only.



**Certified to NSF/ANSI Standard 61**

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