

**FlexGel 2****Hydrophilic Polyurethane Single  
Component Foam / Gel**

Product Data Sheet

**Tested for contact with potable water  
in accordance with NSF Standard 61****RANGE OF APPLICATION**

- **Stop water infiltration**
- **Sealing joints**
- **Sealing of pipe joints through commercial packer equipment for repairing leakages in sanitary and storm sewer pipes**
- **Pipe Intrusions**
- **Sewers, Manholes, Utility Boxes**
- **Tunnels, Dams**
- **Soil Stabilization**

**TYPE OF MATERIAL**

**FlexGel 2** is a single component hydrophilic polyurethane grout. The product is capable of incorporating large amounts of water that are multiples of its own mass, thereby forming a water proofing gel. The cure time of the product is determined by the amount of water added and the temperature. When **FlexGel 2** comes in contact with only small amounts of water (up to three times by volume) the material reacts to a closed cell foam while expanding. The cured material is flexible. Since water is a component of the cured product structure, the material can be affected by wet and dry cycles. The reacted material may shrink and swell as a result of the surrounding moisture content.

The capability of the cured product to swell and increase in volume due to water absorption is one of the important features that discriminate hydrophilic grouts from their hydrophobic counterparts.

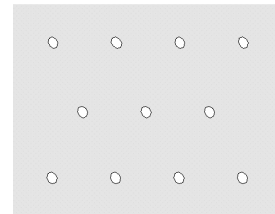
**FlexGel 2** is designed as a single component material. To achieve most satisfying and permanent results in certain applications, a combination of **FlexGel 2** with other systems of our product line may be advised. Ask your **SealBoss** technician for details.

**PROCESSING**

**FlexGel 2** is a unique product in our line as it can either react to a foam or a gel on contact with water. The determining factor for the physical properties is the amount of water present during the reactive time. At a ratio of 1:4 to 1:15 (product to water) a gel is obtained. Lower water ratios result in a strong gel of a light cellular structure. The more water is added the gel gradually softens offering a solid non-cellular gel structure. The gel time is about 1 to 3 minutes varying with temperature and water saturation. At a ratio of 1:1 to 1:3 (product to water) **FlexGel 2** reacts to a foam with good tear resistance.

To fully make use of the **FlexGel 2** gel forming properties, the simultaneous injection of water may be advised. The presence of too little water may result in a foam which may or may not be desired. Two component equipment may be utilized to achieve a certain mixing ratio such as needed for the desired gel properties. The grout can be applied much in the same manner as acrylamide grout with the advantage of superior strength and better durability. The product may also be applied with single component injection equipment. Again, the presence of sufficient water is necessary for the product to form a gel. In some applications water may be introduced to the area prior to injection.

For 'curtain injection' behind below grade structures it is recommended to drill through the structure in a pattern that is determined by the physical properties of the soil. To create a standard pattern holes are drilled 50 cm (two feet) apart from each other in a horizontal line. The next step is to drill holes in a line 50 cm above the first line in the same fashion but staggered. Injection should begin at the highest point. Each packer should be injected until material penetrates the surrounding drill holes. After injection is complete packers should be removed and drill holes be filled with a cementitious grout. The picture indicates the drill hole pattern.

**MAINTENANCE OF EQUIPMENT**

Remove all excess product and any smears. Tools and mixing equipment must be cleaned immediately after use. **R70 Pump Flush** is good to your equipment and should always be used. For best results please follow our recommendations.

**First Step** is conditional - Omit if in conflict with regulations on the jobsite or the equipment you use: Flush first with a very small amount of solvent (not supplied by US) to cut remaining material. Caution: Xylol, Toluol, Acetone, M.E.K. are hazardous, combustible, aggressive towards the environment, equipment, seals and hoses. Immediately follow second step.

**Second Step:** Flush with **R70 Pump Flush** circulate cleaner through pump and hoses for several minutes at higher flow rates. **R70 Pump Flush** is a solvent free, non-flammable cleaner, lubricator and pump and hose conditioner. The product ships without hazard label. We assume no responsibility for equipment damaged by use of material.

**PRECAUTION**

Protect your health! While working with this material, safety goggles, gloves and safety clothing must be worn at all times. While injecting, a full face shield is strongly recommended. Spills and blow-outs do happen! Protect yourself and others on the jobsite. Consider property in proximity of the application area to prevent loss or damage. Protect your jobsite from unauthorized persons. Store all materials and equipment safely and out of reach of children! Observe container labels, MSDS, and instructions in the Product Catalog before using the product and equipment. In case one of the components comes in contact with the skin, wash thoroughly with soap and water. Provide adequate ventilation in volume and pattern in working area. Further protection: emergency showers and eyewash stations.

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**Tested for contact with potable water in accordance with NSF Standard 61****TECHNICAL DATA****FLEXGEL2**

|                           |  |
|---------------------------|--|
| Appearance                | Light Brown  |
| Color                     | Amber  |
| Solids                    | 100% <span style="float:right">ASTM D 1010</span>  |
| Density, g/ml             | 1.1 <span style="float:right">ASTM D 3574</span>   |
| Flash Point, C / F        | >225 <span style="float:right">ASTM D 93-85</span>   |
| Viscosity, cps at 40C-25C | 390-750 <span style="float:right">ASTM D 1638-74</span>                                      |
| Corrosiveness             | Non-Corrosive  |
| Solubility in Water       | Gelation   |
| Components                | Polyurethane Resin   |
| Packaging                 | 5 Gal<br>55 Gal  |
| Storage                   | Good storage stability for unopened containers at 15° - 30° C<br>58° - 85° F. Store indoors. |

|                         |                 |
|-------------------------|-----------------|
| Induction Time, 20C/68F | <30 sec         |
| Gel time, 25C/70F       | approx. 100 sec |

## Properties:

|                       |  |            |            |            |
|-----------------------|--|------------|------------|------------|
| Physical Form         | <b>Foam</b>  | <b>Gel</b> | <b>Gel</b> |            |
| Water Ratio, approx.  | 1:1  | 1:5        | 1:8        |            |
| Tensile Strength, psi | 430  | 165        | 150        | ASTM D3574 |
| Bonding Strength      | 300-380  | 120-150    | 120-140    |            |
| Elongation, %         | 462  | >1250      | >1250      |            |
| Die-C                 | 49   | 43         | 43         |            |
| Shrinkage             | <1%-10% ASTM D1042<br>variable with water content and foam or gel reaction |            |            |            |
| Appearance            | Light Brown Foam - Gel   |            |            |            |

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When mixed with water

Max surface area 15cm<sup>2</sup>/ Liter

Refer to PDS for mixing

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