Technical Datasheet

Prime Flex 920

Hydrophobic polyurethane injection resin

Description

Prime Flex 920 is a single-component polyurethane injection resin used to seal gushing leaks, including wide gaps in concrete, where the structure is not subject to movement. This hydrophobic, low viscosity polyurethane reacts with water and expands to form a closed cell, watertight, rigid foam. Due to its low viscosity, 920 is also used for permeation grouting of loose soils to consolidate soil particles and increase the load-bearing capacity. (For high strength or large void filling, see Prime Flex 985.) This material requires the use of Prime Kat or Kick Fast Kat to adjust the reaction time from 4-13 seconds.

Primary Applications

- Sealing leaks and wide gaps in concrete. Examples:
• Box culverts, tunnels (subway, water, utility, etc.)
• Manholes, sanitary and storm pipes/structures

- Curtain grouting below grade structures. Examples:
• Parking decks
• Foundations and basements

Permeation grouting for soil stabilization. Examples:
• Roads and highways
• Seawalls and retaining walls
• Sinkhole perimeters (not filling the sinkhole—see 985)

- Sealing joints in corrugated metal pipes

Advantages

• Independently tested; verified as NSF/ANSI Standard 61 compliant for potable water contact (when used with Prime Kat catalyst)
• Low viscosity: penetrates into fine areas
• Pumped as a single component
• Available in convenient cartridges
• Up to 2900% expansion (unconfined)
• Variable reaction (set) times
• Watertight on gushing leaks
• Phthalate free

Packaging

• 5 gallon pail • 50 gallon drum • 250 gallon unit (in 275 gallon tote)
• 10:1 Quick Mix cartridge (case of 6 w/ Kick Fast catalyst). For Quick Mix, Tube “A” is 750 ml. Tube “B” (Kick Fast catalyst) is 75 ml.

Technical information: Physical properties at 72°F (22°C)

Properties will vary depending upon site conditions, application method, mixing method and equipment, material temperature, and curing conditions. 100% solids. **Viscosity:** 75-125 centipoise.

Physical Properties - Cured	Results	Test Method
Tensile strength (confined)	186 psi	ASTM D638
Tensile elongation (confined)	3.4%	ASTM D638
Shrinkage	None	ASTM D1042 / D756
Compressive strength (ASTM 20-30 sand)	1650 psi; 237,600 psf	ASTM D695
Reaction times at 77°F (23°C) based on 2.5 ml water per oz. of resin		

PRIME KAT Kat to 920 mix ratio[2]	Kat to 920 mix quantities	Initial reaction time	Set time	Unconfined expansion[1]
10%	13 oz. to 1 gal.	7 seconds	28 seconds	29x
7.5%	10 oz. to 1 gal.	8 seconds	37 seconds	28.5x
5%	7 oz. to 1 gal.	11 seconds	52 seconds	26.5x
3.5%	5 oz. to 1 gal.	12 seconds	86 seconds	23.5x
1%	1.5 oz. to 1 gal.	19 seconds	3 minutes	13.5x

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KICK FAST catalyst (not recommended to use Kick Fast below 10%)				
Quantity by volume	Set time (test) - Kat to 920 mix quantities	Full cure (test) initial reaction time	Set time	Unconfined expansion[1]
10%	13 oz. to 1 gal.	5 sec.	22 sec.	29x

[1] Unconfined expansion is tested in an open cup, without soil, and in laboratory conditions. Actual expansion when injected into soil or sand will vary depending on soil conditions (soil type, porosity, compaction, water pressure, etc.) as well as temperature, pressure, catalyst content, etc. Expansion in soil or sand is significantly less than unconfined expansion. [2] Maximum mix ratio of Prime Kat to Prime Flex 920 is 10% by volume

Accessory Products

- Prime Kat or Kick Fast Kat
- Eco Flush
- Injection ports
- Oakum
- Prime Plug
- Pumps

Directions For Use

Mixing Ratio: Use reaction times guide below to determine amount of Prime Kat or Kick Fast catalyst to add to the 920. One 33 oz. bottle per 5 gallons of 920 equals 5% mix ratio. Two 33 oz. bottles is the maximum dose at 10%. Only mix the amount of material that can be used within 12 hours. Thoroughly mix materials using a low speed drill with a mixing paddle. **Hand mixing will not be sufficient** and will result in underperforming material. Once catalyst is added, 920 will react upon contact with moisture.

Material Preparation: Store material overnight to precondition to 70-80°F (21-27°C) prior to use. If using less than full pail, pre-mix material prior to adding Prime Kat.

Limitations: Cold temperatures will slow down reaction time and increase viscosity. pH below 3 or above 10 may adversely affect foam properties.

Storage & Clean Up

Storage: Store in dry environment between 40 and 80°F (4 and 27°C). Shelf Life: 18 months from date of manufacture in unopened containers properly stored.

Clean Up: Flush injection equipment with Prime Flex Eco Flush. Remove cured material by soaking in Prime Flex CGC (not appropriate for contact with plastic). Clean off of skin with soap and water.

Environmental Protection

Cured material is environmentally safe. Dispose of in accordance to appropriate regulations. Clean up any spilled catalyzed liquid material and add a small amount of water to cure unreacted material.

Shipping

Shipping Class: Motor Freight Class 60
Hazard Classification: Non-Hazardous

Health & Safety

Safety: See SDS for complete safety precautions prior to use. Use approved personal protective equipment (PPE), including safety glasses, gloves and confined space equipment/ procedures if applicable. Avoid skin contact; do not ingest. For professional use only.

First Aid: **Eye Contact:** Immediately flush with large amounts of water. Seek medical attention. **Inhalation:** Move to fresh air if symptoms occur. If breathing is difficult, seek medical attention. **Ingestion:** Seek medical attention immediately. **Skin Contact:** Wipe off contaminated area. Wash with soap & water.

Manufacturing

Products manufactured by Prime Resins, Inc. in the U.S. under strict quality assurance practices at our Conyers, GA plant.

Warranty & Disclaimer

Prime Resins Inc. warrants their products to be free from manufacturing defects and that products meet the published characteristics when tested in accordance with ASTM and Prime Resins standards. No other warranties by the Manufacturer are expressed or implied, including no warranty of merchantability or fitness for a particular purpose. The Manufacturer will not be liable for damages of any sort resulting from any claimed breach of warranty since it has no control over how the products are used and applied. The Manufacturer's liability under this warranty is limited to replacement of material or refund of sales price of the material. There are no warranties on any product that has exceeded the "shelf life" or "expiration date" printed on the package label.

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