Technical Datasheet

# Prime Flex 920

Hydrophobic Water-Activated Polyurethane Grout

## Description

A single-component, 100% solids polyurethane injection resin used to seal high flow leaks, including wide gaps in concrete, for situations where structures are not subject to movement. This hydrophobic, low viscosity resin reacts with water and expands to form a closed cell, watertight, rigid foam. Due to its low viscosity, Prime Flex 920 is also used for permeation grouting of loose soils to consolidate soil particles and increase the load-bearing capacity. It requires the use of Prime Kat or Kick Fast catalyst. Reaction time is adjustable with catalyst ratio.

## Advantages

- Encapsulates & strengthens loose soil or sand
- Watertight
- Controllable set time
- Pumped as a single component

## Applications

- Highways, roads & bridges
- Airport runways & taxiways
- Railway sleepers
- Seawalls & sinkhole edges
- Earthen dams & bund walls
- Excavation pits & tunnelling launch pits
- Tunnels (transit & utility)
- Underground car parks
- Waste water & storm sewers

## Technical information

| Typical Properties @ 23˚C; Liquid | Results | Test Method |
|---|---|---|
| Viscosity | 110-130 centipoise | ASTM D 1638 |
| Colour | amber | |

NOTE - Properties will vary depending upon site conditions, application method, mixing method and equipment, material temperature, and curing conditions.

| Typical Properties - Cured | Results | Test Method |
|---|---|---|
| Compressive Strength (with fine sand) | 7.08 MPa | ASTM D695 |
| Elongation | 3.4 % | ASTM D695 |
| Tensile strength | 0.28 MPa | ASTM D695 |
| Shrinkage | None | ASTM D1042 |

| Kat to resin ratio[1] | Mix quantities | Reaction time (seconds) | Set time (seconds) | Uncon-fined expan-sion[2] |
|---|---|---|---|---|
| 5 % | 50 ml to 1 L | 20 | 70 | 26.5x |
| 3.5 % | 35 ml to 1 L | 30 | 80 | 23.5x |
| 1 % | 10 ml to 1 L | 90 | 5 min.30 sec. | 13.5x |
| Kick Fast[3] 10 % | 100 ml to 1 L | < 5 | 11 | 29x |
| Reaction Times @ 23˚C based on 2.5ml water per 30ml of resin | | | | |

[1] Maximum mix ratio of Prime Kat to Prime Flex 920 is 10% by volume.
[2] 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.
[3] Not recommended to use Kick Fast below 10%.

## Mixing Ratio

Use reaction times on the chart above to determine amount of Prime Kat addition to Prime Flex 920. For permeation grouting, use 0.5% to 1% by volume of Prime Kat.

One 976ml bottle of Prime Kat per 18.9 litre Prime Flex 920 equals 5% mix ratio.



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Issue: 2

## Material Temperature Conditioning

Prior to site use, resin drums must be stored overnight at 21-27˚C to precondition.

## Application Instructions

When using less than a full pail of Prime Flex 920, pre-stir material prior to adding Prime Kat.

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. Once Prime Kat has been added, Prime Flex 920 will react upon contact with moisture.

## Cleaning

Flush injection equipment immediately with Prime Flex Eco Flush.

## Packaging

Prime Flex 920 is available in 18.9 litre & 189.2 litre units.

Prime Kat or Kick Fast catalyst must be ordered separately.

Prime Flex Eco Flush is available in 20 litre drums.

## Storage

Shelf Life of Prime Flex is 18 months from date of manufacture when stored correctly in unopened containers

Store in dry environment between 5-27˚C. Do not allow product to freeze. Protect from moisture.

## Health & Safety

Product Safety Data Sheets (SDS) are available from Nufins. SDS sheets are provided to help customers satisfy their safe handling, use and disposal needs as well as assist with any conformance requirements made locally by health and safety regulations.

SDS are continually updated to provide the latest information to our customers. We therefore recommend contacting our head office to obtain the most recent and accurate SDS before handling and using any product.

## Limitations

Low temperatures will slow down reaction times and increase resin viscosity.

Do not apply below 5˚C as the material will not cure below this temperature.

pH below 3 or above 10 may adversely affect foam properties.

## Disclaimer

The information contained herein is to the best of our knowledge true and accurate and is given in good faith but without warranty. The user will be deemed to have satisfied themselves independently as to the suitability of our products for their own particular purpose. In no event shall Nufins be liable for consequential or incidental damages.

Users must always refer to the most recent issue of the Technical Datasheets, copies of which will be supplied on request.

## Technical Support

Through our technical department and laboratories we can offer a comprehensive service to specifiers and contractors. Technical contacts are available to provide further information and arrange demonstrations.