

AVINJECT 1C MULTIPURPOSE

One component, solvent free, polyurethane injection system, injected with a two-component pump with water as the second component. It produces a tough, flexible polyurethane foam or an elastomeric gel or soft gel, depending on the amount of water added. Possible applications: expansion joints, heavy water leakages, screen injections

Application

- ❖ **Heavy water leakages**
Because of the high reactivity in combination with water, Avinject 1C Multipurpose is used for shutting of Heavy water leakages (up to 5 ma per minute). The ratio to be used is 1:1 or pure water.
- ❖ **Expansion joints**
Because of the foaming capability Avinject 1c Multipurpose, a good flexibility of the product as well as a good adhesion to the aggregate, it is used for expansion joints. The ratio to be used Avinject multipurpose to water is 1:4 or 1:5
- ❖ **Gel membrane screen injection**
Because of the low viscosity of the water/polymer mixture, it can be used as a liquid, but solidifying gel membrane applied to the positive side of a concrete structure from the negative side. Ratio to be used Avinject 1c multipurpose & water is 1:10. The gel mixture will fill the voids from the aggregates like sand etc. } Behind the wall to avoid that water will come into the wall construction. The procedure is drilling through the wall and pumping the Avinject 1c multipurpose—water mixture via packers.
- ❖ **Masonry walls screen injection**
Because of the low viscosity in combination with a relatively long pot life can be used in masonry walls as a vertical barrier to fill the voids/joints in masonry walls to avoid that water comes through the voids to the surface of the wall. Ratio to be used is 1:12/13 The procedure is drilling holes to 80 % of the wall thickness or until 5cm from the back of the wall and pumping the Avinject 1c multipurpose water mixture via packers in the wall.
- ❖ **Gel encapsulation**
Because of the low viscosity in combination with a good adhesion it is used for the gel encapsulation method where voids are filled with a jelly material (e.g. delaminated concrete slabs etc.). Ratio to be used is 1:10
- ❖ **Oakum technique**
Because of the reactivity with water it is used for the activated oakum technique where oakum or any other kind of carrier material is soaked in pure Avinject 1c Multipurpose. The oakum and the Avinject 1c Multipurpose are applied into any void where small water leakages can be a problem (pipe outlet through walls etc.).
- ❖ **Injection hoses**
Because of the low viscosity in combination with a relatively long pot life it is used for injection hoses being installed in new structures for immediate waterproofing or for later waterproofing. Ratio to be used is 1:12/13

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Storage

To avoid problems, it is very important to understand that these materials are both temperature and moisture sensitive. Therefore, materials should be stored in an area with temperatures not exceeding 30°C or not lower than 10° C. All partially used drums should be covered by nitrogen and retreated to prevent the ingress of moisture.

Packing

Available in Metals drums of 25 kgs

Safety & precautions

- ❖ Do not breathe dust/fume/gas/mist/vapor/spray
- ❖ In case of improper ventilation wear respiratory protection
- ❖ Wear protective gloves/clothing and eye & face protection
- ❖ **If in eyes:** Rinse cautiously with water for several minutes, Remove contact lenses, if present & easy to do. Continue rinse.

Technical data

Colour	Dark Brown
Specific gravity	1.10-1.12 g/cc
Viscosity at 25°C	600-800 CPS
Storage Stability in well-sealed drums	Min 12 months

How to use it

To prevent condensation on the liquids at the start of work, the temperature of the components should be at least as high as the ambient temperature. All opened drums of Avinject 1c Multipurpose should be purged with dry nitrogen and capped when not in use. Depending on the situation. It can be pumped by the use of a single component injection pump equipped for higher pressures to withstand the water pressure or in case water is used as the second component, it should be pumped with a two-component injection pump with variable ratio. After the injection is completed,

Reaction time

Ratio (liq/water)	Cream time	Gel time	End product
1:1	20 — 30 Sec	50 — 60 Sec	Strong foam
1:4	60 — 80 Sec	110 — 130 Sec	Strong gel
1:5	80 — 100 Sec	120 — 140 Sec	Strong gel
1:10	3—4 Min	6 -8 Min	Gel
1:12	4—6 Min	14 — 16 Min	Gel
1:15	14 —16 Min	35 — 40 Min	Soft gel

The times were measured at 20°C. To check the reaction, we advise the free foaming conditions. Add water, according to the recipe, to the Avinject 1c Multipurpose and mix. To measure the cream time, the gel time and the rise time use the following procedure:

- ❖ The start time (point 0) is the time after the water is added and mixing starts.
- ❖ The cream time is the time at which the mix starts foaming.
- ❖ The gel time is the time the material is no longer able to flow