

TamAcryl 4000 A (ECO-Range)

Elastic Methacrylate based injection system for sealing and consolidation works in presence of water

DESCRIPTION

TamAcryl 4000 A is part of our ECO range and is an ultralow viscosity, hydrophilic acrylic injection resin formulated to produce a highly resilient, polymer extended flexible gel gasket with high performance suitable for expansion joints. TamAcryl 4000 A (ECO-Range) ultralow viscosity enables excellent penetration capability into the finest cracks and joints. TamAcryl 4000 A (ECO-Range) also commonly used as a permanent primary injection, for second pass injection to tighten up and for injection tubes. TamAcryl 4000 A (ECO-Range) is a water based and environmentally friendly system of multi-functional methacrylates. The final product is a soft, elastic and tacky crosslinked gel.

KEY BENEFITS



- › Ultra-low viscosity
- › Reversible swelling
- › Polymer reinforced
- › Adjustable get times from a few seconds to a few minutes as per site/project requirements
- › Good chemical resistance
- › Reacts even in the presence of mineral and saline conditions

TYPICAL APPLICATIONS

- › Leak sealing
- › Injection tubes
- › Construction and cold joints
- › Reinforced acrylate with high performance suitable for expansion joints
- › Primary permanent injection or secondary injection to tighten up Soil stabilisation.

TECHNICAL DATA

The TamAcryl 4000 A (ECO-Range) system consists of three (optional four) products:

Part A1: TamAcryl 4000 A (ECO-Range) Resin

Part A2: TamAcryl 4000 A (ECO-Range) Accelerator – a liquid activator for standard setting times between 10 seconds and 30 minutes

Part B1: TamAcryl 4000 A (ECO-Range) Powder – in powder form to be dissolved in water or in TamAcryl 4000 A Polymer or in a mixture of water and TamAcryl 4000 A Polymer.

Part B2 (optional): TamAcryl 4000 A (ECO-Range) Polymer – a liquid polymer in which TamAcryl 4000 A (ECO-Range) Initiator can be dissolved instead of water, in order to get an acrylic gel with higher mechanical properties

TamAcryl 4000 A (ECO-Range)					
Appearance	Blue Liquid				
Active Content	42%				
Water Solubility	Soluble				
pH	6.5 – 7.0				
Density at 20°C	1.2 kg/l				
Viscosity at 20°C EN ISO 3219	10 – 30 mPa·s				
Dry-wet Cycles EN 14498	Conform (EN 14498)				
Resistance to pH	Up to 12				
TamAcryl 4000 A (ECO-Range) Part B2 (Polymer)					
Appearance	White liquid				
Active Content	50%				
Water Solubility	Soluble				
pH	7.5 ± 0.5				
Density	1.04 ± 0.05 g/ml				
Viscosity at 23°C	150 mPa·s				
Reaction Time					
TamAcryl 4000 A (ECO-Range) with 5% Catalyst					
Temp.	0.5% init	1% init	2.5 init	4% init	5% init
5°C	46' 33"	23' 49"	12' 51"	8' 20"	6' 45"
10°C	35' 14"	18' 45"	12' 15"	5' 49"	4' 19"
15°C	24' 37"	12' 36"	10' 01"	4' 02"	3' 00"
20°C	15' 55"	9' 12"	7' 19"	3' 01"	2' 12"
25°C	12' 28"	6' 55"	3' 19"	2' 25"	2' 01"

All technical data stated herein is based on tests carried out under laboratory conditions.



Whilst any information and/or specification contained herein is to the best of our knowledge, true and accurate, we always recommend that a trial be carried out to confirm suitability of the product. Please note regional climatic conditions may cause a variation in the performance of the product. No warranty is given or implied in connection with any recommendations or suggestions made by us or our representatives, agents or distributors. The information in this data sheet is effective from the date shown and supersedes all previous data. Please check with your local Normet office to confirm that this is current issue.

Elastic Methacrylate based injection system for sealing and consolidation works in presence of water

APPLICATION GUIDELINES

The following mixtures need to be prepared

Mixture 1: TamAcryl 4000 A (ECO-Range) Part A1 + TamAcryl 4000 A (ECO-Range) Part A2 (Accelerator)

Mixture 2:

TamAcryl 4000 A (ECO-Range) Part B1 (Powder) + Water
or

TamAcryl 4000 A (ECO-Range) Part B1 (Powder) + TamAcryl 4000 A (ECO-Range) Part B2 (Polymer)
or

TamAcryl 4000 A (ECO-Range) Part B1 (Powder) + a mixture of water and TamAcryl 4000 A (ECO-Range) Part B2 (Polymer)

The mixtures are then mixed in ratio of 1:1.

Prepare the mixture of components A1 + A2 and B1 + water (or B2 or water/B2) in two opaque plastic containers each with a lid. Take an equal volume of each component and check the setting time of the mixture. Adjust the ratio if necessary. The mixture of components A1 + A2 is stable for at least a few hours, if kept covered in a cool and dry place even longer. The mixture of component B1 + water (or B2 or water/B2) is stable for a few days below a temperature of 25°C.

Application

For slow setting one can use a single-component pump. Only prepare amounts that can be injected before the gel sets by mixing one volume of components A1 + A2 and one volume of component B1 + water (or B2 or water/B2). For all types of setting, the use of a two component methacrylate pump is recommended. Both the mixtures are injected in a volume ratio of 1:1.

Handling

When handling the TamAcryl 4000 A (ECO-Range) system, observe the recommendation set out in the SDS. Only stainless steel or plastic containers can be used (PVC, polyethylene, polypropylene). Avoid any contact between component A2 and component B1 without having been diluted in their respective mixture (A1 + A2 and B1 + water (or B2 or water/B2)). The mixtures have to be perfectly homogeneous before use. Do not add more than three volumes of water. Cleaning of equipment: water.

PROPERTIES OF THE INJECTION FLUID

Composition

The standard injection fluid is obtained by mixing two mixtures in a ratio of 1:1. However depending on the conditions of the injected substrate the quantity of water present in the injection solution may be up to 3 times the volume of resin.

Viscosity

The viscosity of the TamAcryl 4000 A (ECO-Range) solution will depend on the temperature and dilution. It will remain constant up to the setting point.

Setting point

Gelling slows down at low temperature but still fast even below 0°C. In acid conditions the reaction is slowed down, while under alkaline conditions the reaction is speeded up. The presence of minerals and metals (specially iron and copper) may increase or decrease the rate of setting, depending on their concentration. When immersed in water the unconfined gel can absorb up to 2 times its own weight of water in a few weeks without cracking. Under humid conditions, the volume of the gel will remain approximately constant. In the absence of water, the gel will slowly shrink, without cracking. These dimensional changes are reversible and do not degrade the gel. For better control of dry-wet cycles use TamAcryl 4000 A (ECO-Range) Part B2 (Polymer).

PACKAGING

TamAcryl 4000 A (ECO-Range) is available in:

- › Part A1 (Resin): 20 kg
- › Part A2 (Accelerator) 2.5 kg
- › Part B1 (Powder) 1 kg
- › Part B2 (Polymer) 20 kg

STORAGE

TamAcryl 4000 (ECO-Range) should be stored at a temperature above 0°C and below 25°C. Do not expose directly to light or sunlight. If these conditions are maintained and the product packaging is unopened, then a shelf life of one year can be expected.

HEALTH & SAFETY

TamAcryl 4000 (ECO-Range) should only be used as directed. We always recommend that the Safety Data Sheet (SDS) is carefully read prior to application of the material. Our recommendations for protective equipment should be strictly adhered to for your personal protection. The Safety Data Sheet is available upon request from your local Normet representative.