

VELOSIT® IR 604

Ultra Low Viscosity Hydrophilic Polyacrylate Gel



Application fields

VELOSIT IR 604 is a three component ultra low viscosity flexible hydrophilic polyacrylate gel.

Typical application fields are as follows:

- Curtain Wall Grouting
- Brick, Block, Defective Concrete
- Sealing of Construction Joints
- Waterproofing pipe penetrations
- Tunnels, Dams, Bridges, Soil Stabilization
- Waste Water Tanks

Properties

VELOSIT IR 604 offers outstanding flow and penetration properties. It flows extremely well into hairline cracks and fissures thereby sealing the structure. VELOSIT IR 604 is well suited for curtain wall grouting or area injections behind joints and wall segments. It can also be used for soil stabilization.

VELOSIT IR 604 is characterized by its high flexibility, strength, and its ability to handle movement within structures. It also has the ability to shrink and re-swell for the life span of the product. If for some reason the area waterproofed is no longer subject to water for a period of time, the gel will remain in place. If water comes back at some point, the gel will swell creating a watertight seal again. The curing time of VELOSIT IR 604 can be adjusted on the job site from 15 seconds up to several minutes depending on the conditions and water flow on the job. Higher temperatures and humidity will result in faster cure times of the gel. Please consult VELOSIT Technical Staff for the ideal cure times for your project. The cured gel has excellent adhesion and is not affected or soluble in water or hydrocarbons. It is not affected by dilute acids or alkalis or the standard salts that are present in concrete.

- 3 component acrylate gel
- Self swelling
- Variable reaction time adjustable through catalyst
- Very flexible
- Phenol-free
- Application with 2 component pumps (1:1)
- Very good penetration
- Low viscosity

Application

VELOSIT IR 604 is a three component product supplied with amounts of both comp. A1, comp. A2 and comp. B. Comp. A2 is added to the 28 kg jug of comp. A1 and mixed. Comp. B (granules) is added to 28 l in a suitable pail. VELOSIT IR 604 is generally mixed and pumped through a stainless steel 1:1 plural component pump. Be sure to observe the temperature and humidity of the environment since both will affect the pot life. Since VELOSIT IR 604 is mixed at the gun, a continuous pumping operation can be achieved.

Curtain Wall Grouting

Prior to injecting VELOSIT IR 604, a complete assessment should be made of the structure, the soil, and the conditions behind the foundation wall. This can be done by making probes through the wall. If massive amounts of active water are present, injection with a VELOSIT IR foam may be necessary. A strategy for packer placement, type of packer, gel cure time, and gel consumption should also be planned out before injection. Because of the ultra low viscosity of VELOSIT IR 604, a higher consumption rate will occur on porous substrates and with silty or sandy soils. The drill holes should go through the entire thickness of the wall to the positive side. This will allow for a complete continuous membrane to form on the soil side of the wall. Begin injection on the lowest packer and work along the wall in the packer pattern. Look for the gel to travel to the packer adjacent the one that is being pumped into. Average gel consumption for a curtain wall application ranges from 0,1 – 0,15 m²/l. This can change if there are larger cavities behind the wall. Plan accordingly. Continue this process until the entire height and length of the wall are injected.

Porous Substrates

As in the curtain wall application, the structure should be assessed and a plan made for the injection process. This application is commonly used

on weaker and leaking masonry (brick), block, natural stone and poorly consolidated concrete. Deteriorated joints need to be repaired or replaced as well as any visible or larger cracks. The holes drilled for the packer placement should point downward at 35 – 45 ° angles. This will allow for better penetration of the gel. The drill holes should not penetrate the entire thickness of the wall. They should only go to 75 % the thickness of the wall. The injection process should start and proceed from the bottom to the top of the wall. Continue pumping on a port until you see material traveling to and coming out of an adjacent port. The consumption rate will vary depending on the porosity of the structure. Average consumption rate is 0,05 – 1 m²/l.

Cleaning

VELOSIT IR 604 can be cleaned in the fresh state with soap and water. Once it has cured mechanical removal is necessary.

Quality features

	Comp A1/A2:	Comp B:
Color:	Amber/colorless	White
Mix Ratio by volume:	20:1	5 % sol.
Mix Ratio:	1 : 1	
Density:	1.10 kg/l	
Mixed Viscosity:	1.5 – 10 mPas	
Reaction Time (21°C):	38 – 130 sec (depending on mix ratio)	

Reaction

Comp.B in 28 l water	Reaction time (21 °C)
1.2 kg	38 sec.
1.0 kg	43 sec.
0.8 kg	60 sec.
0.6 kg	80 sec.
0.4 kg	130 sec.

Packaging

VELOSIT IR 604 Comp. A1 is available in 28 kg jugs
VELOSIT IR 604 Comp. A2 is available in 1.2 kg bottle
VELOSIT IR 604 Comp. B is available in 1.0 kg tin

Storage

Comp. A1 and Comp. B from VELOSIT IR 604 can be stored in unopened original packs for 12 months at 5 – 25 °C (40 – 77 °F) in a dry storage place protected against sunlight.

Comp. B from VELOSIT IR 604 can be stored in unopened original packs for 6 months at 5 – 25 °C (40 – 77 °F) in a dry storage place protected against sunlight.

Safety

Please observe the actual valid material safety data sheet and follow the described safety measures for handling of the product.

Recommendations

VELOSIT IR 604 is only available for professional applicators.

All described product features are determined under controlled laboratory conditions according to the relevant international standards. Values determined under job site conditions may deviate from the stated values.

Please always use the latest version of this data sheet available from our website www.velosit.de

Manufacturer

VELOSIT GmbH & Co. KG
Industriepark 7
32805 Horn-Bad Meinberg
Germany
www.velosit.de