

1. Product Profile

StenCare® 2IP-1 is a 1:1 ratio two component polyurethane injection resin for consolidation and reinforcement of substrates for mining and tunnel drilling applications. It is a slow gelling, not foaming material, primarily used for strata reinforcement.

StenCare® 2IP-1 is available in 66 kg plastic containers, 460 kg drum and 2.200 kg IBC sets.

2. Uses

StenCare® 2IP-1 is primarily used for substrate stabilization during mining and drilling operations. It penetrates deep into strata to fill the cracks, fissures and voids with a high strength and high adhesion polyurethane resin. It is suitable for high depth and long-distance injections. StenCare® 2IP-1 can also be used for reinforcement or repair of concrete structures.

3. Application

StenCare® 2IP-1 is applied by high pressure, dual component, metering dispensing machines. The volumetric mixing ratio is 1:1 and components are already packaged in this ratio.

Prior to application, A and B components should be checked for freezing and contamination. The dispensing machine can only operate reliably when both components are homogenous liquids.

The components are fed into the dispensing machine. Care must be taken to ensure that components are attached to the correct feeding lines. If the lines are crossed, so that A component is fed to line contaminated with B component, or vice versa, the material may gel and irreversibly clog the feeding lines and pumps.

If the dispensing machine has protective fluid in the pumps and lines, it must be cleaned before use. The StenCare® 2IP-1 is pumped thru the machine, until the protective fluid is completely flushed. After ensuring that the lines and pumps are free of protective fluid and filled with StenCare® 2IP-1, the dispensing lines can be connected to the dispensing head.

One or more holes are drilled into the substrate. The self-sealing, disposable dispensing heads are then inserted into the holes. The first dispensing head is connected to the dispensing lines. The material is pumped into the substrate until the target pressure is achieved. After target pressure is achieved in one hole, the dispensing lines are

Hydrophobic Polyurethane Injection Resin

Highlights

- Hydrophobic polyurethane resin for soil stabilization
- Slow setting
- High tensile and compressive strength
- Adheres well to different types of rock and concrete
- Does not foam
- Low flammability
- No VOC content or dangerous emissions during use
- Limited exotherm to ensure safe temperatures

disconnected from the dispensing head and moved to the next dispensing head.

The typical injection pressures for mining operations is 150-200 bar. For concrete, loose or weak substrates lower pressures may be used.

Especially for low feed pressure application, a dispensing head with a static mixer unit is recommended.

If faster curing speeds are required, StenQuick PUI can be used. The StenQuick PUI must be added to the A component and mixed thoroughly before use.

5. Cleaning

The application machine must be carefully cleaned by pumping protective fluid thru the machine.

6. Safety

Applicators and supervisors must read Material Safety Data Sheet (MSDS) carefully and observe the considerations written therein.

Emptied packages must be handled in compliance with relevant regulations and laws.

7. Storage

The material must be kept in dry indoor storage. Recommended storage temperature is 10 – 30°C. Stored in these conditions, the shelf life of unopened containers are 12 months. Low temperatures may lead to crystallization of the product. Do not allow StenCare® 2IP-1 to freeze.

9. Technical Data

Properties	Results
Chemical Structure	Polyurethane resin and isocyanate
Solid Content	100
Appearance	Amber
Density	Cured resin: 1.14 kg/l Component A: 1.04 kg/l Component B: 1.25 kg/l
Mixing ratio (A:B)	1:1 (by volume) 1:1.2 (by weight)
Flow time (23°C)	10 minutes
Compressive modules at 10% deformation	75 Mpa
Compressive Strength	80 MPa
Adhesion to wet concrete	5 MPa
Shore D hardness	80
Maximum temperature during cure (100g)	90°C
Shelf Life	1 Year

Stenkim® reserves the right to make changes in the values in this table at any time.

8. Company Liability

The information contained in this document is based on site experience of and laboratory tests done by Stenkim® and meant to give general information. It is the purchaser's responsibility to ensure applicability of products to their use. All Stenkim® products are available in specified quality and conditions. The company accepts no liability whatsoever unless the transportation, storage, application conditions and customer use are overseen by Stenkim®.

Stenkim® reserves the right to update all information contained in this document without notice.