

Low Viscosity, Polyurea-Silicate Injection Resin

### DESCRIPTION

TamPur 116 is a low viscosity, two component polyurea-silicate resin formulated for injection into soft and hard rock geologies in mining, tunnelling and civil engineering applications. It is specifically designed for rapid stabilization of coal, concrete and soft ground geologies, providing structural integrity, compressive strength and flexural strength. Its superior performance allows TamPur 116 to be used as a Chemical "Rock Bolt Resin" and on-site tests have demonstrated pull-out strengths in excess of 31 tonnes. Low in peak exotherm reaction and heat development compared to polyurethane.

### KEY BENEFITS

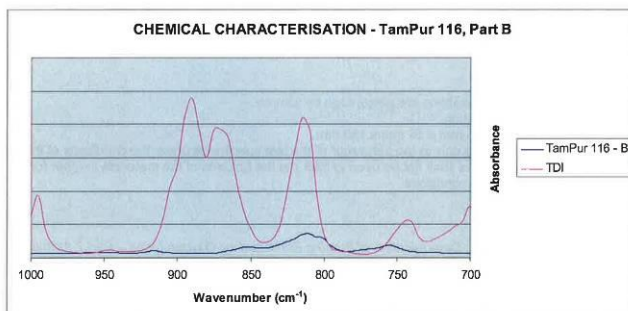
- › Non-foaming even in contact with water and will not absorb water
- › Penetrates cracks wider than 0.25 mm
- › Shows good adhesion to wet substrates
- › Fast reaction even underwater
- › Fire resistant
- › No agitation of components required beforehand
- › Low odour
- › Environmentally friendly
- › User friendly

### TYPICAL APPLICATIONS

- › Consolidation of fracture rock, sands, gravels and coal faces
- › Rock bolting applications
- › Repair of underwater constructions
- › Repair of concrete cracks

### TECHNICAL DATA

#### Chemical Characterisation – TamPur 116 Part B



| TamPur 116  |   |                               |
|---|---|-------------------------------|
|   | Component A                                     | Component B                   |
| Colour  | Clear, colourless                               | Dark Brown                    |
| Density at 20°C   | 1.30 - 1.57 g/cm <sup>3</sup>                   | 1.15 - 1.35 g/cm <sup>3</sup> |
| Flash point   | > 200°C   | > 200°C                       |
| Viscosity   | 120 - 350 mPa·s                                 | 50 - 300 mPa·s                |
| Note: Viscosity tested using a SHEEN Viscomaster Cone & Plate CP1, at temperature of 25°C, speed 750 rpm, cone range 0 – 2000mPa*s) |   |                               |
| Reaction data: A:B = 100:82 (by weight at 25°C)<br>1:1 by volume  |   |                               |
| Start of reaction   | 30 - 80s  |                               |
| Tack free   | 180 - 246s                                      |                               |
| Maximum Exothermic Temperature (Mine Safety Test Method TM003, Section 4)   | 95.3°C  |                               |
| Fire Resistance (Mine Safety Test Method TM003, Section 6)  |   |                               |
| Flame Exposure Time   | Flame / Afterglow / Smoke Persistence           |                               |
| 20s   | 0s  |                               |
| 60s   | 0s  |                               |
| Fire Propagation (Mine Safety Test Method TM003, Section 7)   |   |                               |
| Exposure Time of Burner / Flame   | Persistence of Flame / Persistence of Afterglow |                               |
| 10s   | 0s  |                               |
| 20s   | 0s  |                               |
| Oxygen Index ISO 4589-2:1996(E) Part 2  | 30.2%   |                               |
| Mechanical properties   |   |                               |
| Compressive Strength PN-C-89 071: 1993, (During the compression of the sample)  | > 40 MPa  |                               |
| Flexural PN-EN ISO 178:2006, (During the bending of the sample did not break)   | > 16 MPa  |                               |
| Flex. adhesive Strength   | > 5 MPa   |                               |

All technical data stated herein is based on tests carried out under laboratory conditions. The results may vary in practice due to thermal exchange between resin and strata, accuracy of the pump metering system and strata contaminates, humidity and other factors.

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.

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## APPLICATION GUIDELINES

Components A and B of TamPur 116 are delivered ready-to-use. They are injected in the ratio of 1:1 by volume using a two component injection pump equipped with a static in-line mixer.

Note: The curing reaction time will vary depending on the temperature of the TamPur 116 resin, the strata and the ground water. Both components should be stored above 15°C prior to application.

To achieve thorough mixing of components A & B during injection, use of a static in-line mixer in connection with the mixing head is essential. The length of the static mixer should be at least 50 cm long.

Both components A & B drums should be thoroughly shaken before use.

For full application details, please contact your local Normet sales representative.

If voids and cavities must be filled, we advise using our TamPur 117. TamPur 117 is designed for economic filling of voids and cavities. Void filling should be undertaken in stage/lifts, this will reduce the exothermic heat generated during the reaction stage. Polyurethane grout can't be used as void/cavity filling material. Please contact your local Normet representative first, if void/cavity filling is the planned application.

## PACKAGING

TamPur 116 is supplied in:

| Kit – 20 litre Jerrycan     |         |
|-----------------------------|---------|
| Component A                 | 30 kg   |
| Component B                 | 23 kg   |
| Kit - 200 litre drums       |         |
| Component A                 | 300 kg  |
| Component B                 | 245 kg  |
| Bulk - 1000 litre IBC tanks |         |
| Component A                 | 1450 kg |
| Component B                 | 1190 kg |

## STORAGE

Resins must not be subjected to freezing conditions during transportation and storage. Keep out of direct sunlight, in a well-ventilated area where the average temperature is between 10°C and 45°C, then a shelf life of 12 months can be expected. (The product can withstand temperature spikes of up to 55°C for up to 24 hours. When stored at constant high temperature above 35°C, a shelf life of six months is expected.)

## HEALTH & SAFETY

TamPur 116 should only be used as directed. We always recommend that the Safety data sheet 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.