TamPur 116T

Low Viscosity, Polyurea-Silicate Injection Resin

CONSTRUCTION CHEMICALS

TECHNICAL DATA SHEET

DESCRIPTION

TamPur 116T 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 stabilisation of coal, concrete and soft ground geologies, providing structural integrity, compressive strength and flexural strength. Its superior performance allows TamPur 116T 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.

TamPur 116T is available in three grades, standard, slow (SLOW 6M) and slow (SLOW).

KEY BENEFITS

- Non-foaming even in contact with water and will not absorb water
- Penetrates cracks wider than 0.25 mm
- Available in two grades STD, SLOW (6M) & SLOW
- Fast reaction even underwater
- Fire resistant
- No agitation of components required beforehand
- Low odour
- Environmentally friendly
- User friendly

TYPICAL APPLICATIONS

- Stabilising of coal and soft rock strata
- Consolidation of fractured rock, sands, gravels and coal faces
- Rock bolting applications
- Fissure grouting
- Repair of underwater construction
- Repair of concrete cracks

APPLICATION GUIDELINES

Components A and B of TamPur 116T 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 116T 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 116T is supplied in:

40 litre kit - Metal Cans / Plastic Canisters	
Component A	29 kg
Component B	24 kg
400 litre Pack – drums	
Component A	290 kg
Component B	240 kg
2000 litre Pack - IBC tanks	
Component A	1490 kg
Component B	1200 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 one year 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 116T 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 Health & Safety data sheet is available upon request from your local Normet representative.

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normet
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TECHNICAL DATA

TamPur 116T		
	Component A	Component B
Colour	Clear, light straw	Dark Brown
pH	11	5
Density at 20°C	1.30 - 1.50 g/cm^3	1.15 - 1.25 g/cm^3
Flash point AS2106.2-2005 Part 2	> 200°C	> 200°C

Viscosity at Temperature (mPa·s)	TamPur 116T		TamPur 116 T SLOW (6M)		TamPur 116T SLOW	
	Part A	Part B	Part A	Part B	Part A	Part B
15°C	460	325	470	320	460	320
20°C	370	280	370	270	365	280
25°C	300	220	300	230	300	220
30°C	265	200	250	200	260	200

Reaction data: A:B = 100:82 (by weight)
1:1 by volume

Reaction rate		Reaction time (mm:ss)		
		TamPur 116T STANDARD	TamPur 116T SLOW (6M)	TamPur 116T SLOW
15°C	Gel	1:23	11:03	18:22
	Tack free	2:46	17:00	31:44
20°C	Gel	1:10	9:57	13:00
	Tack free	2:05	15:27	29:07
25°C	Gel	1:04	6:33	10:02
	Tack free	1:57	8:11	21:41
30°C	Gel	0:55	1:55	5:15
	Tack free	1:49	5:30	12:45
Set time		-	> 30 min @30°C	> 30 min @30°C
Maximum exothermic temperature (Mine Safety Test Method TM003, Section 4)		96 - 118°C		
Mechanical Properties				
Compressive strength (ASTM D695)	4 hours	40 MPa	9.8 MPa	10.2 MPa
	24 hours	40 MPa	55 MPa	57 MPa
Flexural (ASTM D790)	24 hours	21 MPa	12.5 MPa	13.5 MPa
Tensile ASTM D638	24 hours	11 MPa	6 MPa	8 MPa
Bond to concrete (ASTM D4541)	24 hours	2 MPa	2 MPa	1.5 MPa
	Mode of failure	35% concrete 65% interface	20% concrete 80% interface	100% interface
Slant shear (ASTM C882)	24 hours	8.5 MPa	7.5 MPa	7.5 MPa
	Mode of failure	100% interface	100% interface	100% interface

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, surface properties of strata, humidity, pressure and other factors.