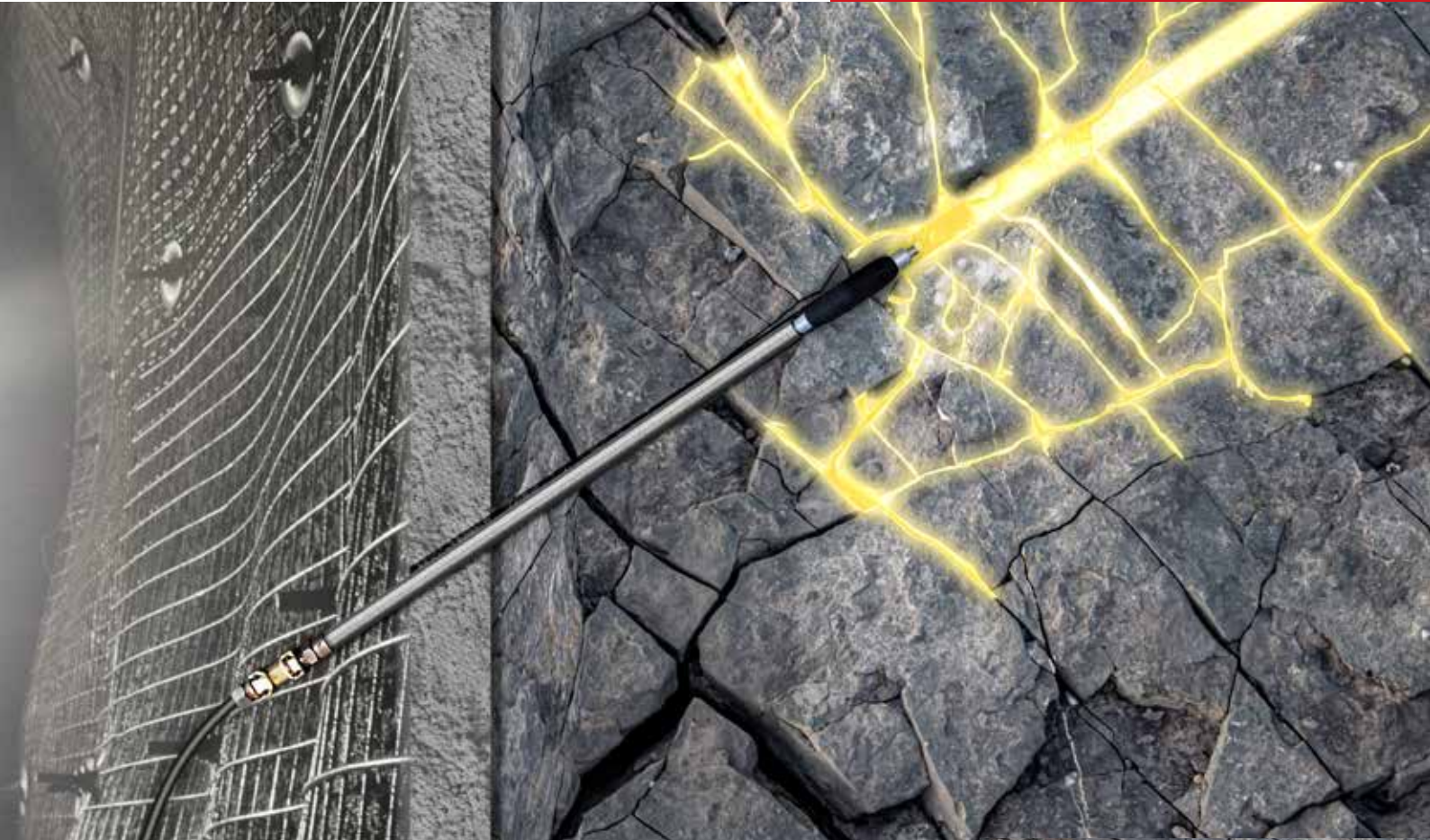




ROCK AND
GROUND SUPPORT

normet



SILICATE MODIFIED POLYUREA INJECTION RESIN



PRESERVING OUR FUTURE (Lighter Environmental Footprints)

Injection resins have been used extensively in mining, civil engineering and the general building industry for many years and continue to play an important role in controlling or preventing water ingress, binding and improving soils through to rock consolidation and rock strata grouting. Our resins have been designed specifically for these applications and comply with country and site standards and more importantly, environmentally safe and user friendly!

EXPERIENCE & KNOWLEDGE

Normet's comprehensive portfolio of injection resins, our in depth understanding of the technology, application and associated equipment allows Normet to provide technical solutions to meet all of our client's project demands. Injection resins are part of our core business and we continue to expand our offering in line with increasing global requirement, a testimony to the products and services we provide to our customers.

KEEPING UP THE PACE

Our industry is ever evolving and complex designs and advance in construction methods require innovative construction chemicals. Normet's continued investment in our global R&D team and facilities allows us to regularly develop and improve our resin technology, providing the most effective and efficient materials for our client's injection requirements.



ENVIRONMENTAL CONSIDERATIONS

One of the most important considerations in the use of resins for water control and ground engineering is the environmental impact. Our systems are used regularly in environmentally sensitive locations such as tunnels, mining and general civil engineering projects. Normet is fully committed in the manufacturing of "green" chemicals helping you operate in an environmentally responsible manner.





ECONOMICAL SOLUTION

Normet's range of silicate modified polyurea injection resins are new generation systems used predominantly in the mining and tunnelling sector.

KEY BENEFITS

- Controlled gel times and fast cure rates
- Fire resistant
- High stability, even in aggressive environments
- High immediate strength gain
- Chemically resistant and durable
- Non-foaming even in contact with water (TamPur 116 & TamPur RBG)
- High foaming ratio (TamPur 117)

ROCK BOLT GROUT - TAMPUR RBG

TamPur RBG incorporates a gelling agent that produces a non-sag resin once the two components are mixed and injected. TamPur RBG is ideally suited for securing all types of rock bolts where early tensioning/loading is required along with full rock bolt encapsulation. TamPur RBG is available in varying grades to suit both an automated or manual injection process and to allow for local ambient and rock formation temperatures.

TAMPUR RBG

- Two-component, thixotropic non-sag urea silicate resin
- Ideally suited for securing rock and anchor bolts in overhead installations
- Designed for different applications, bolt types, ambient and rock temperatures
- Varying grades are available
- Excellent gelling characteristics, lower viscosity and better pumpability
- Full encapsulation of rock bolts
- Exceptionally high early strength development
- Environmentally friendly

TAMPUR RBG – THREE GRADES:

SLOW

- Used for applications and in conditions whenever hot ambient temperatures are encountered or slow reaction is required
- Can be used when early tensioning of bolt is not required
- Typically used in temperatures > 25°C

STANDARD

- Used for applications and in conditions whenever normal reaction is sufficient
- Can be used when early tensioning of bolt is not required
- Typically used in temperatures between 15°C to 25°C

FAST

- Used for applications and in conditions whenever fast reaction time is required
- When early tensioning of bolt is required (mainly primary support)
- Can also be used in colder temperatures, if other TamPur RBG grades react too slow

SILICATE MODIFIED POLYUREA INJECTION RESIN



ROCK/GROUND STRENGTHENING & CONSOLIDATION - TAMPUR 116/T

Our TamPur 116/T is a two-component, low viscosity, 1:1 ratio resin that reacts to form a non-expansive, solid compound that gains considerable adhesive, compressive and tensile strength within minutes. Ideal for injection into high convergence zones in deep mining or tunnel excavations to improve rock strength capability and as a binder for loose rock formation. TamPur 116/T is also used extensively to secure rock and cable bolts allowing for early tensioning.

TAMPUR 116T

- Two-component, urea silicate resin
- Ideally suited for rock strengthening and consolidation
- Solid, high-strength resin
- Fast reacting
- Environmentally friendly

VOID & CAVITY FILLING - TAMPUR 117

TamPur 117 is designed for cavity filling in hard rock mining, goff filling in coal workings to general void filling for tunnelling and civil engineering projects. TamPur 117 reacts within seconds to form a high expansive, lightweight foam, which is economical, non-toxic, fire resistant and user friendly.

TAMPUR 117

- Two-component, urea silicate resin
- Ideally suited for cavity filling in mining and tunneling applications
- Exceptionally high foam development
- Fast reacting
- Environmentally friendly



TamPur 117
Void and cavity filling urea silicate resin

COMPLETE PACKAGE OFFERING

Our range of resin injection pumps have been designed to cater for both high and low pressure applications. Normet works together with the market leaders in the sector of injection pump technology. We are using pumps that are specially designed for injection resins and proven in several Mine, Tunnel and Civil Engineering projects all over the world.

- Normet working together with market leaders in this sector
- Whole range of injections pumps & spare parts available
- We can provide online/site training and introduction



Your project deserves it.



PERFORMANCE AND SAFETY

Complementing our chemical resins, Normet supplies an extensive range of grout injection packers, pumps and accessories designed with performance and safety in mind. All of our packers, pumps and packer accessories are thoroughly tested and certified for use in high pressure applications.

Our packer range includes mechanical disposable and reusable types ranging from 32 mm - 125 mm in diameter and capable of being used for drill hole diameters between 29 mm - 128 mm. Our GX-UP single use inflatable packer constructed of aluminium and rubber is specifically designed for TBM grouting operations. These types of packers self-expand at set pressures between 30 and 60 bar.

HIGH & LOW PRESSURE PACKERS



Complete range of high and low pressure reusable and disposable packers

Normet also supplies a full range of inflatable injection packers, burst disc packers and associated accessories.

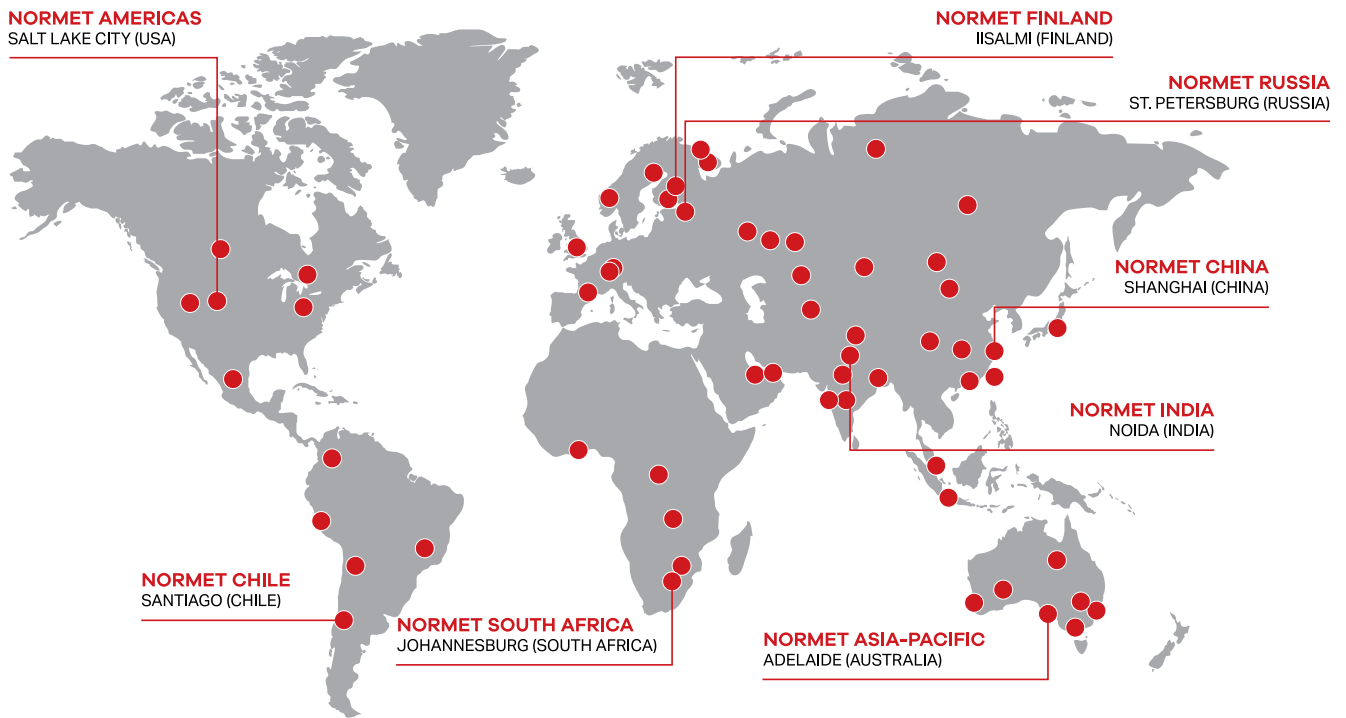
Normet has recently introduced a high pressure packer for use in controlling extreme water ingress situations through drill holes in rock excavation tunnelling. The packer can be easily mounted to a drilling jumbo and positioned in the drill hole and then inflated.

Normet also provides an extensive range of smaller diameter packers ideally suited for general crack and joint injection projects. Our range includes plastic grease nipple and hook on connector type, steel and alloy based packers with grease nipple non-return valves and plastic hammer packers. Our smaller packer range from 6 mm through to 25 mm diameter with varying length options, offering versatility to our end user. For further information on the full range of packers we supply, please contact your nearest Normet office.

PACKERS FOR GENERAL CRACK AND JOINT INJECTION



GLOBAL PRESENCE / LOCAL SUPPORT



NORTH AMERICA
Canada
Mexico
USA

SOUTH AMERICA
Brazil
Chile
Colombia
Peru

EUROPE
Finland
France
Norway
Sweden
Switzerland
United Kingdom

AFRICA
Democratic Republic
of Congo
Ghana
South Africa
Zambia

MIDDLE EAST
Qatar
United Arab Emirates

EURASIA
Kazakhstan
Mongolia
Russia
Uzbekistan

**INDIA
CHINA**

APAC
Australia
Hong Kong
India
Indonesia
Japan
Singapore
Taiwan

WE ARE HERE FOR YOU

For more information, please contact your local Normet representative, visit www.normet.com for contact details.



EQUIPMENT



SERVICES



CONSTRUCTION
CHEMICALS



ROCK
REINFORCEMENT



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WWW.NORMET.COM

Subject to technical and design modifications without notice. Technical properties have been achieved under theoretical and normal conditions. Please consult the respective machine manual for all matters related to safety, operation and maintenance.

Silicate Modified Polyurea Injection Resin V1.0