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PRODUCT CATALOGUE







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ABOUT RASCOR

RASCOR is a highly specialised corporate group operating in the fields of waterproofing, grouting technology and building/structure preservation and repair. Based in Switzerland, the company develops and produces its own systems, products and machines for these applications. The foundation stone for the present RASCOR Group was laid in 1965 by René P. Schmid, who still plays an active role. The Group is now represented by its own branches and subsidiaries in a number of European, Asian and Arabian countries. Among RASCOR's major assets is its tremendous wealth of knowledge and expertise, underpinned by a powerful, efficient global network capable of tackling the most challenging, high-profile international projects.

ENVIRONMENTAL COMPATIBILITY AND DURABILITY

RASCOR's products are continually adapted in line with the latest standards and guidelines. Eco-efficiency plays a pivotal role in this regard, the achievement of maximum compatibility being enshrined in our corporate policy. To meet the wide-ranging demands in terms of chemical resistance, RASCOR offers a variety of formulations that can be dovetailed to the needs of a particular project.

RASCOR WORLDWIDE

The various companies work separately within their particular geographical area or, in tandem, at national and international level. RASCOR collaborates with its contractors in developing and implementing projects across the globe. In addition to our own branches, we collaborate with selected partners in various countries to provide tailored solutions for our clients.

RASCOR International Ltd., Switzerland RASCOR Construction Chemicals GmbH, Germany RASCOR Abdichtungen GmbH, Austria RASCOR UK Ltd, United Kingdom RASCOR Ireland Ltd, Ireland RASCOR & Partner Italia Srl., Italy

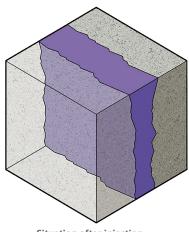


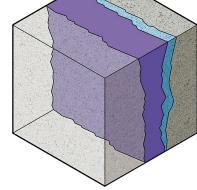
Pioneers in waterproofing

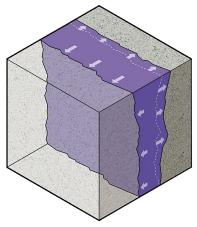




INJECTION PRODUCTS RASCOflex AY Acrylic Grouts







Situation after injection Water infiltration through later crack opening

Additional swelling provides a reliable seal

Through their extra-low viscosity, high flexibility and hydrophilic properties, RASCOflex AY Acrylic Grouts seal even the finest cracks against high water pressures.

RASCOFLEX AY ACRYLIC GROUTS

RASCOflex AY Resin Grouts are used in general building and civil engineering works, tunnels, drains, sewers, canals, vehicular pavements and special geotechnical works. Their applications include both preventive waterproofing on new-build schemes and remedial waterproofing to combat water infiltration or escape, leakages involving other liquids, or simply to consolidate rock and subsoil. Even wide temperature fluctuations do not significantly affect viscosity, allowing injection even at very low temperatures, i.e. when cracks or joints are at their widest due to thermal contraction. With special formulations, grouting is even possible at subzero temperatures, provided the building fabric contains no ice. Through their high pH value, RASCOflex AY Acrylic Grouts also contribute to passive corrosion protection within the building fabric. The grout encloses the steel reinforcement and forms a barrier against corrosion.

PROPERTIES

- Same viscosity as water/penetrates into smallest capillaries
- Remains stable under water pressures up to 60 bar and above
- Unlimited reversibility of swelling action
- · Reinjectable
- · High chemical resistance

MECHANISM

A particular feature of acrylic resins is their hydrophilic behaviour. In other words, after polymerization, they swell locally upon contact with water. Hence, for reliable waterproofing, acrylic resins require no adhesion to the joint face. Even soiled cracks and joints can be properly sealed without any additional measures. Acrylic grouts also ensure that any cracks and joints which subsequently open or widen due to structural movement are kept safely watertight. This is again because, unlike other chemical injection products, the polymerized material swells to fill voids as these expand.

APPLICATION

The components of all RASCOflex AY Acrylic Grouts are mixed in the ratio 1:1 by volume. RASCOflex AY Acrylic Grouts can be accelerated or retarded on site, as required, using RASCOflex AY-AC (accelerator) or RASCOflex AY-RE (retarder). Use of the RASCOflex AY-PE Elastomer additive serves to additionally stabilize the end product and significantly enhance its bonding performance. RASCOR recommends the use of a 2-component grouting machine with a 1:1 flow rate. Slowly polymerizing acrylic grout can also be injected as a 1-component material.





INJECTION PRODUCTS

RASCOflex Acrylate Grouts



RASCOflex AY108

Properties

- stabilized, highly concentrated gel
- swelling capacity approx. 30%
- very high reactive and reversible swelling action
- sealing achieved by swelling pressure on contact with water
- no adhesion required to joint/crack/void faces
- high frost resistance (in its end condition)
- approved for potable water facilities
- passive corrosion protection
- high chemical resistance

Applications

- remedial waterproofing of hairline cracks, wide cracks and joints
- preventive waterproofing, in conjunction with RASCOtec injection systems
- suitable for dry to heavily water-bearing cracks and construction joints
- also suitable for underwater injections (saltwater or freshwater)



RASCOR recommends: RASCOpump HJP 14 III-22

RASCOpump HJP is a 2-component high-pressure grouting machine for the injection of acrylate grouts in the proportions 1:1. The pump delivers 86 ccm (86 ml) per double stroke with a pressure of up to 200 bar. Through the addition of a rinsing pump, this model is also very easy to clean. All that is needed for operation is a compressed air supply.

The efficient and inexpensive injection pump for all acrylate grouts!



RASCOflex AY223

Properties

- highly elastic properties
- · high swelling action
- · swelling capacity approx. 40%
- reactive and reversible swelling action
- sealing achieved by swelling pressure on contact with water
- no adhesion required to joint/crack faces (injection possible even in case of partial soiling)

Applications

- suitable for damp or wet environment
- can be used for wide, damp to heavily water-bearing cracks, construction joints and butticing.
- ideal for RASCOtec injection channels and RAS-COtec injection hoses
- top-performing solution for large openings and movement joints



RASCOflex AY408

Properties

- reactive and reversible swelling action
- swelling capacity approx. 15%
- sealing achieved by swelling pressure on contact with water
- no adhesion required to joint/crack/void faces
- high frost resistance (in its end condition)
- maximum cost-effectiveness

- can be used for wide, damp to heavily water-bearing cracks and segment joints
- consolidating injections behind buried structures or grouting of segment joints in tunnels
- grout curtains involving high material consumption







RASCOflex AY808

Properties

- · stabilized polyacrylate for mass injection
- outstanding flow properties
- reactive and reversible swelling action
- swelling capacity approx. 10%
- sealing achieved by swelling pressure on contact with water
- good frost resistance (in its end condition)

Applications

- suitable for all mineral bases
- · suitable for damp or wet environment
- civil engineering/tunnelling works involving mass injection (void filling, grouting behind structures, ground injections)
- grout curtains involving high material consumption

RASCOflex AY Additives



RASCOflex AY-AC (Accelerator)

Properties

- for use with all RASCOflex AY formulations
- suitable for potable water applications
- must only be added to A-component

Applications

 shortening of time to start of polymerization for RASCOflex AY acrylate injection products



RASCOflex AY-RE (Retarder)

Properties

- for use with all RASCOflex AY formulations
- suitable for potable water applications
- must only be added to A-component

Applications

• lengthens time to start of polymerization for RASCOflex AY acrylate injection products



RASCOflex AY-PE (Elastomer)

Properties

- · significant reduction in shrinkage
- guaranteed adhesion to base

Applications

- substitute for water in preparation of B-compoport
- facilitates bonding to concrete base, many types of polymer membrane and other surface waterproofings



RASCOflex AY-QV100 (Swell Enhancer)

Properties

- for use with all RASCOflex AY formulations
- significantly increases swelling capacity
- is added to B-component instead of water

Applications

to increase swelling capacity of RASCOflex AY acrylate injection products



RASCOflex AY-DT (Rinsing Fluid)

Properties

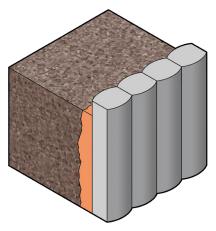
- frost-resistant down to -25° C
- may be used several times

- cleaning of injection equipment (grouting machine and high-pressure hoses)
- rinsing of injection equipment when not in use (frost-free storage)

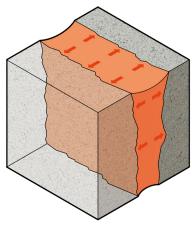




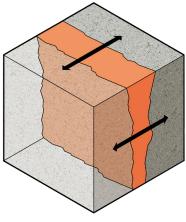
INJECTION PRODUCTS RASCOflex PU Polyurethane



Tough, elastic injections with RASCOflex PU309



Limited ductile crack injections with RASCOflex PU110X



Structural bonding and waterproofing with RASCOflex PU112

RASCOflex PU Polyurethanes - versatile grouts with a wide variety of applications.

RASCOFLEX PU POLYURETHANE

RASCOflex PU Polyurethanes are formulated so as to foam upon contact with water and thereby stop the water flow. The polyurethane grout injected behind this then gels into a compact PU mass, without any contact with water, to provide a permanent waterproof seal. RASCOflex PU Polyurethanes can be split into three main groups. The PU309 series products form a grout body with rigid elastic properties. The PU110 series, on the other hand, exhibits low viscosity in the liquid state and cures into a "soft", highly flexible mass, thereby making it suitable as a permanent waterproof barrier.

PROPERTIES

- Mixed in ratio 1:1 by volume
- · Serves as both preliminary and main injection
- · Also cures in the absence of water
- Gel times of only a few seconds are possible
- High final strength or extremely expansible, permanently elastic mass, depending on selected system

APPLICATION

All RASCOflex Polyurethanes are supplied ready-to-use for mixing in the ratio 1:1 by volume. For rapid-curing materials, RASCOR recommends the use of a two-component grouting machine. The two components are fed separately to a static mixer immediately upstream of the drill hole, where they are blended into a homogeneous mix.

The slow-curing polyurethane grouts can also be injected with a one-component grouting machine. Use of a high-speed stirrer is, however, required to premix the two components to a homogeneous consistency in the mixing container.





RASCOflex Polyurethane Grouts



RASCOflex PU110X

Properties

- · extra-low viscosity
- · elastic waterproofing
- contact with water speeds up reaction
- suitable for potable water applications
- for use with 1- or 2-component injection pumps
- ductile filling of cracks, voids, interstices and defects

Applications

- suitable for potable water applications
- elastic filling/bonding of cracks, joints and voids
- for wide-ranging ground conditions, from dry to hydrostatic pressure applications
- grouting of injection and other hose systems



RASCOflex PU110X Cartridge

Applications

- suitable for small-scale waterproofing works
- crack and joint injections
- applications subject to spatial constraints



RASCOflex PU112

Properties

- very high environmental compatibility
- for structural bonding of concrete elements
- for combined waterproofing and consolidation
- resin with very high compressive strength
- individually controllable gel time
- high ground permeation
- for use with 1- or 2-component injection pumps

Applications

- structural bonding and waterproofing of cracks in concrete elements
- · universally applicable injection grout



RASCOflex PU118X

Properties

- very eco-friendly
- extra-low viscosity
- elastic waterproofing
- · no change in reaction upon contact with water
- for use with 1- or 2-component injection pumps

Applications

- dynamic waterproofing/bonding of cracks, joints and voids
- for dry and water applications.
- ideal for ground injection systems
- suitable for RASCOtec injection channels or hoses



RASCOflex PU309L

Properties

- high ground permeation
- · long gel time
- foaming of material limited to area of water contact, with material behind this forming compact, tough-elastic PU mass
- resin with very high compressive strength
- use of accelerator allows fine adjustment of gel time
- for use with 1- or 2-component injection pumps

- suitable for long injection distances or slow injection procedures
- waterproofing and consolidation of dry to water-bearing soft ground
- waterproofing in case of low water flow speeds, both above water and underwater
- waterproofing and consolidation of masonry and porous concrete
- structural, waterproof filling of cracks, joints and voids







RASCOflex PU309N

Properties

- · short gel time
- foaming of material limited to area of water contact, with material behind this forming compact, tough-elastic PU mass
- in absence of water: no foaming; material cures to resin with very high compressive strength
- · use of accelerator allows fine adjustment of gel time
- for use with 2-component injection pump

Applications

- tough-elastic filling of cracks, voids, interstices and defects
- waterproofing and consolidation of dry to water-bearing concrete and masonry
- waterproofing against hydrostatic pressure in case of low to medium water flow speeds, both above water and underwater
- structural, waterproof filling of cracks, joints and voids



RASCOflex PU309N Cartridge

Applications

- suitable for small-scale waterproofing works
- · crack and joint injections
- applications subject to spatial constraints



RASCOflex PU309S

Properties

- very short gel time
- foaming of material limited to area of water contact, with material behind this forming compact, tough-elastic PU mass
- in absence of water: no foaming; material cures to resin with very high compressive strength
- · use of accelerator allows fine adjustment of gel time
- for use with 2-component injection pump

Applications

- · halting of heavy water ingress
- waterproofing and consolidation of dry to water-bearing soft ground, concrete and masonry
- very good for waterproofing against hydrostatic pressure under the most difficult conditions
- sealing against water ingress into excavations, basements, cellars and underground structures



RASCOR recommends: RASCOpump HJP 14 II-22

RASCOpump HJP is a 2-component high-pressure grouting machine for the injection of polyurethane grouts in the proportions 1:1. The pump delivers 86 ccm (86 ml) per double stroke with a pressure of up to 200 bar. All that is needed for operation is a compressed air supply.

The efficient and inexpensive injection pump for all polyurethane grouts!



RASCOflex PU309S+

Properties

- extremely short gel time
- very short setting time
- foaming of material limited to area of water contact (increase in volume of 100 200%)
- only available as cartridge

- localized application to halt heavy water ingress
- waterproofing against hydrostatic pressure under the most difficult conditions
- rapid halting of water ingress into excavations, basements and cellars







RASCOflex PU309F

Properties

- · very short gel time
- short setting time
- intense and rapid foaming of material (even without water contact)
- rigid foam structure with high compressive strength
- closed-cell foam body
- for use with 2-component injection pump

Applications

- waterproofing and consolidation of dry to water-bearing soft ground
- good for waterproofing against hydrostatic pressure
- sealing against water ingress into excavations and hydraulic structures



RASCOflex PU309F Cartridge

Applications

- suitable for small-scale waterproofing works
- rapid sealing against minor water ingress in building and civil engineering works
- applications subject to spatial constraints



RASCOR recommends: RASCOpump 2-comp. Chamber Cartridge Dispenser (Compressed Air)

This pneumatically operated two-component cartridge dispenser can be used with a small, commercially available compressor. It is suitable for all RASCOflex injection materials in cartridge form. Suitable for quick and precise application in confined spaces or with a small waterproofing area.

Versatile powerhouse in case format!







RASCOflex PU512F

Properties

- 1-component
- · very high viscosity
- · high foam factor
- solvent-, CFC- and chlorine-free
- good adhesion to joint/crack/void faces
- · can be accelerated if required

Applications

- temporary waterproofing against hydrostatic pressure
- temporary filling of voids (e.g. for ground anchors or grouting behind diaphragm, contiguous pile or sheet pile walling)

RASCOR recommends: RASCOpump Membran SF 23 CR

RASCOpump Membran SF 23 CR is a 1-component grouting machine for the injection of all kinds of polyurethane grout. With a flow rate of up to 165 ltr/h (2.6 ltr/min), it allows the prompt performance of both major and minor waterproofing works. All that is needed for operation is a power supply. Recommended for all 1-component RASCOflex PU products.

Reliable diaphragm pump for all kinds of 1-component injection.



RASCOflex PU516F

Properties

- gel time/foaming start adjustable as required
- high foam factor
- semi-flexible foam body
- solvent-, CFC- and chlorine-free
- for use with 1-component injection pump

- temporary waterproofing against hydrostatic pressure
- pre-injection prior to permanent waterproofing of cracks and construction joints subject to heavy water ingress and high hydrostatic pressures.





RASCOflex PU Additives



RASCOflex PU-AC (Accelerator)

Properties

- for use with all RASCOflex polyurethane systems
- must only be added to A-component
- maximum proportion 6% (by volume)

Applications

shortening of gel times for RASCOflex PU injection products



RASCOflex PU-FO (Foaming Agent)

Properties

- for use with all RASCOflex polyurethane systems
- must only be added to A-component

Applications

- achievement of higher foam factor for RASCOflex PU injection products
- provision of finer cell structure



RASCOflex PU-THIX (Thixotropic Agent)

Properties

- for use with all RASCOflex polyurethane systems
- must only be added to A-component
- maximum proportion 3% (by volume)

Applications

- achievement of higher viscosity for RASCOflex PU injection products
- prevention of any segregation of components brought about by high-volume water flows



RASCOflex PU-DT (Rinsing Fluid)

Properties

- frost-resistant down to -25° C
- may be used several times

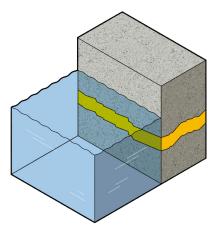
Applications

• cleaning of injection equipment (grouting machine and high-pressure hoses)

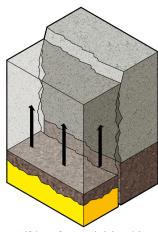




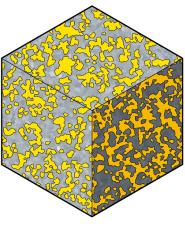
INJECTION PRODUCTS RASCOflex US Urea-Silicate Grouts



Underwater bonding with RASCOflex US409



Lifting of ground slabs with RASCOflex US409



Void filling in ground with RASCOflex US509F

RASCOflex US Urea-Silicates - the special-purpose injection grouts.

RASCOFLEX US UREA-SILICATE GROUTS

RASCOflex US Urea-Silicate Grouts are used for bonding, stabilizing and void filling applications in all areas of building construction and civil engineering.

These grouts can be split into two groups: foaming and non-foaming materials. Being insensitive to water, they cure equally well regardless of whether they come into contact with water. The foaming process is similarly independent of water contact.

PROPERTIES

- No high curing temperatures
- Structural bonding
- Water-independent injection
- Allows underwater structural injections
- High compressive strength
- High eco-friendliness
- · Insensitive to fire
- Foams without water contact

APPLICATION

RASCOflex US Urea-Silicate Grouts are generally mixed in the ratio 1:1 by volume. Due to their short gel times, these products must be applied using two-component injection pumps. The A and B components are thus fed separately up to the drill hole, where they are blended – like the two-component polyurethane grouts – in a static mixer.





RASCOflex Urea-Silicate Grouts



RASCOflex US409

Properties

- no foaming or increase in volume upon contact with water
- · low viscosity
- fast-reacting, high compressive strength
- also suitable for underwater application
- high adhesion to void faces, even on wet base
- non-flammable
- for use with 2-component injection pump

Applications

- consolidation and stabilization of soft ground, gravels and sands
- waterproofing and structural reinforcement applications underwater
- for fixing anchors and grouting joints



RASCOflex US509F

Properties

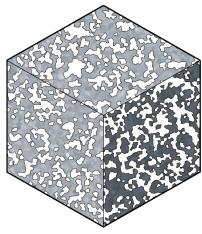
- fast-reacting resin, rapid foaming, high flexibility
- compressible foam
- · also foams in absence of water
- · high chemical stability
- high adhesion to void faces, even on wet surfaces
- low flammability
- · mainly closed-cell end product
- for use with 2-component injection pump

- consolidation and stabilization of soft ground, gravels and fissures
- · void filling in building and civil engineering works
- preventive injection for ground stabilization prior to excavation

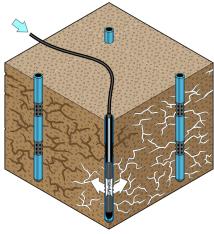




INJECTION PRODUCTS RASCOflex GT Colloidal Silica



Pore space injection with RASCOflex GT222



Method using a sleeve pipe and RASCOflex GT222

RASCOflex GT Colloidal Silica - Injection materials for special applications

RASCOflex GT Colloidal Silica

The RASCOflex GT series consists of injection grouts based on colloidal silica gel, used for the stabilization and sealing of soil and rock. Thanks to their low viscosity, these products enable effective penetration into fine-grained soils and cracks, even in water-saturated environments. They are particularly suitable for applications in tunneling, excavation sealing, and soil improvement in foundation areas.

PROPERTIES

- Low viscosity
- · Adjustable reaction time
- Hydrophilic properties
- Environmentally friendly
- Non-combustible

APPLICATION

RASCOflex GT products consist of a base component (Comp) and a hardener/activator (Cat). Depending on the product and application requirements, they can be processed as either a one- or two-component system. The reaction time is controlled by the mixing ratio of Comp to Cat. Injection is carried out using suitable pump systems, with pump speed and mixing ratio adjusted to meet specific project requirements. For successful application, it is essential to consider soil conditions, injection speed, and the set gelation time.





RASCOflex GT Colloidal Silica



RASCOflex GT222

Properties

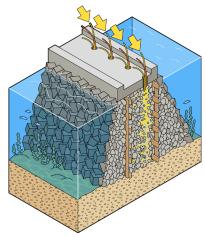
- based on colloidal silica gel
- low viscosity and allowing wide permeation
- non-combustible
- no solvents, free from toxic constituents
- good environmental compatibility
- waterproof
- high adhesive strength in conjunction with adjustable gel time
- · non-foaming
- for use with 1- or 2-component injection pumps

- pre-injection in bored tunnel construction, stabilization and waterproofing on mining projects
- remedial waterproofing in existing tunnels
- ground improvement
- raising of compressive strength of sandy subsoils

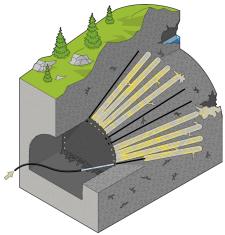




INJECTION PRODUCTS RASCOhybrid Hybrid Products



Stabilization of a pier with RASCOhybrid HMS317



Face stabilization with RASCOhybrid HMS317N

RASCOhybrid HMS Hybrid Mortar System - The mix makes the difference

RASCOhybrid Hybrid Cement

RASCOhybrid HMS317 is a solvent-free, polyurethane injection resin system with an adjustable reaction time, combined with a cement suspension. This hybrid system optimizes and enhances traditional cement injection, offering numerous advantages. The precisely balanced polyurethane and cementitious components enable a controlled and precise setting reaction of the hybrid mortar. As a result, material loss due to washout during injection is minimized. This leads to up to five times faster injection progress compared to conventional mortar grouting and optimized material calculation, even under high water pressure.

PROPERTIES

- Minimized cement washout
- · Adjustable reaction time and viscosity
- High compressive strength due to hybrid system
- Controlled and precise setting reaction
- · Suitable for waterproofing above and below water
- High cost efficiency due to reduced material loss

APPLICATION

RASCOhybrid HMS317 is supplied in two components (A and B) in a volumetrically balanced 1:1 ratio. If acceleration of the reaction time is required, the reaction accelerator RASCOhybrid HMS AC can be added separately to Component A and homogenized using a mixer.

Injection is carried out using a specialized injection pump that delivers the material in a 1:1 volume ratio and is controlled as a bypass to the cement suspension. Components A and B are transported separately and only combined with the cement suspension immediately before mixing through a static mixer. Through the chemical reaction of all components, a polyurethane hybrid mortar is formed, which is used for highly effective sealing and stabilization measures in dry to highly water-bearing loose rock formations.





RASCOhybrid Hybrid Products



RASCOhybrid HMS317

Properties

- · high ground permeation
- · adjustable gel time and viscosity
- · minimizes washing-out of cement
- · hybrid system with very high compressive strength
- gel time individually controllable using RASCOhybrid HMS AC
- · high cost-effectiveness

Applications

- added to cement suspension for waterproofing and stabilizing dry to heavily water-bearing soft ground in rock masses
- · waterproofing above water and underwater



RASCOhybrid HMS317N

Properties

- high ground permeation
- preset gel time speeds up material preparation where large quantities are required
- minimizes washing-out of cement
- viscosity adjustable through percentage of PU added to cement suspension
- hybrid system with high compressive strength
- additional acceleration of gel time possible through use of RASCOhybrid HMS AC
- high cost-effectiveness

Applications

- added to cement suspension for waterproofing and stabilizing dry to heavily water-bearing soft ground in rock masses
- · waterproofing above water and underwater

RASCOhybrid Additives



RASCOhybrid HMS317 AC (Accelerator)

Properties

- purpose-developed for RASCOhybrid HMS317 system
- gel time very closely controllable
- maximum proportion 20% (by volume)
- can be added directly on site
- guarantees fast homogenization

Applications

- shortening of standard gel time of RASCOflex GT polyurethane injection products
- counteracting of slower gel times caused by low temperatures



RASCOhybrid HMS317 C1 (Cement)

Properties

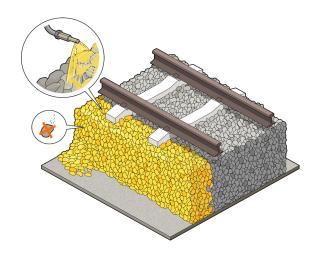
- rapid strength development and waterproofness
- very high durability
- good homogenization with RASCOhybrid HMS systems
- good workability

- recommended as C-component for RASCOhybrid HMS systems
- ideal for demanding civil engineering applications and projects subject to high requirements in terms of sulphate or AAR resistance (e.g. with crane-placed and pumpable concrete, shotcrete and concrete pavements)





BALLAST BONDING RASCOrail Rail Products



The RASCOrail RBP320 ensures long-lasting and stable ballast bonding, reduces maintenance costs, and preserves the drainage capability of the track bed.

RASCOrail RBP320 Ballast Bonding

RASCOrail RBP320 is a solvent-free, mildly hydrophobic, slow-reacting 2-component polyurethane resin. It has been specifically developed for gravel bonding applications, such as in the switch area. The bonding of the gravel stabilizes the track bed, significantly reducing maintenance costs. Due to the localized bonding, the drainage capability of the gravel bed is maintained, allowing water to flow away.

PROPERTIES

- High ballast permeation
- · Long gel time
- · Minimal foaming
- High compressive strength
- Optional pigmentation

APPLICATION

The components A and B are supplied and processed in a 1:1 ratio. Application is carried out by spraying with a wide-angle nozzle using a specialized pump. Mixing takes place immediately before spraying through a static mixer (minimum 300 mm).





RASCOrail Rail Products



RASCOrail RBP320

Properties

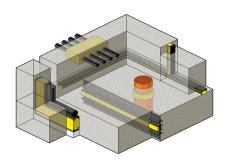
- high ballast permeation
- long gel time
- minimal foaming of material in contact area with water
- high compressive strength
- use of accelerator allows fine adjustment of gel time
- pigmented material (black, grey) upon request

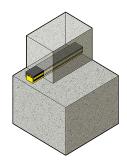
- temporary track stabilization during construction works, maintenance of operations on adjacent track
- stabilization of subgrade at tunnel and bridge approaches
- stabilization of weak subgrades
- elimination of flying ballast
- prevention of damage to ballast bed by high water and flooding
- simplification of cleaning works at stations

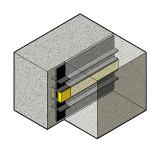




INJECTION SYSTEM **RASCOtec** Injection System







RASCOtec Injection System

RASCOtec Injection Channel

RASCOtec Crack Inducer

From a technical point of view, injection systems are widely recognized as the number-one solution for waterproofing buildings exposed to hydrostatic pressure!

RASCOtec Injection Systems

Waterproof structures require reliable waterproofing solutions. The RASCOtec Injection System combines innovative technology with proven materials to provide long-lasting and secure sealing of concrete joints and penetrations. Thanks to a well-designed two-phase system, waterproofing is applied precisely where it is needed-regardless of weather conditions, in a sustainable and efficient manner.

With a wide range of specially developed components, RASCOtec offers tailored solutions for various requirements:

RASCOtec Injection Channel

Construction and cold joints represent potential weak points in structural waterproofing. The RASCOtec Injection Channel is installed directly into the joint as a preventive measure before the concrete has fully cured, creating a secure foundation for subsequent injection. The special geometry of the channel ensures an even distribution of the injection material across the entire joint. This not only reliably seals even the smallest cracks and gravel pockets but also compensates for unforeseen movements within the joint area.

Advantages: easy installation, suitable for uneven surfaces, re-injectable, independent of temperature and weather conditions.

Use: building construction, civil engineering, tunnel construction, hydraulic engineering.

RASCOtec Crack Inducer

Uncontrolled cracks in concrete can compromise waterproofing and endanger the structural integrity of a building. With RASCOtec Crack Inducers, concrete pouring stages can be executed without restrictions, as they intentionally induce cracks at predefined locations.

This planned crack formation creates a "controlled" construction joint that can later be securely sealed with injection material. The system optimizes the construction process, reduces complex formwork efforts, and can even lower reinforcement costs.

Advantages: controlled crack formation, increased concreting efficiency, reduced construction time, no complex formwork required, re-injectable.

Use: large-scale floor slabs, walls, engineering structures with high concrete volumes





RASCOtec Collar

Penetrations for pipes, cables, or other conduit systems are particularly critical points in structural waterproofing. RASCOtec Collars provide targeted and long-lasting sealing for these elements-regardless of the shape, material, or size of the penetration.

The collars are embedded directly in the concrete, forming an elastic reservoir that is later injected with sealing material. This creates a reliable waterproofing solution that withstands movement and pressure.

Advantages: universal application, easy installation, suitable for various materials, independent of temperature and weather conditions, re-injectable.

Use: pipelines, cable penetrations, groundwater drainage, shafts.

RASCOtec Penetration

When multiple penetrations are planned at a single location, the RASCOtec Multi-Penetration Unit offers an efficient and secure solution. A specially designed foam block encases the pipe bundles, keeps them at a defined distance, and creates an optimal cavity for subsequent injection.

This system ensures that all pipes within a bundle are completely surrounded by injection material, providing a long-term and reliable waterproofing solution.

Advantages: custom manufacturing available, reliable sealing of multiple pipes simultaneously, high resistance to pressure and external influences, easy installation.

Use: pipe bundles for district heating, water and wastewater pipelines, geothermal probes, cable routes.











RASCOtec Expansion Joint

Movement joints are essential to protect structures from damage caused by thermal or mechanical expansion. The RASCOtec Expansion Joint Element is specifically designed for this demanding task.

The system combines two injection channels with a flexible foam insert that absorbs movements within the joint. Even under significant horizontal or vertical shifts, the waterproofing remains intact. This makes it the ideal solution for dynamic structures subject to regular stresses.

Advantages: flexible waterproofing even with joint movements, increased security through extended material reservoir, easy installation, re-injectable.

Use: building expansion joints, bridges, tunnels, engineering structures with high movement requirements.

- 1 RASCOtec Injection Channel
- 2 RASCOtec Crack inducer
- 3 RASCOtec Collar

- 4 RASCOtec Multiple-Penetration Unit
- 5 RASCOtec Expansion Joint





RASCOtec Injection Systems

RASCOtec Injection Channel



Properties

- easy fixing
- 25mm wide contact surface over joint
- no obstruction to steelfixing or formwork erection
- allows multiple injection
- remains flexible in cold conditions
- weather-independent installation

Applications

- waterproofing of construction joints
- preparatory measure for future injections



RASCOtec IC 90° Angle horizontal

Applications

connection of RASCOtec injection channels at



RASCOtec IC Feeder Cap

Applications

- end of injection channel with hose fitting to simplify injection
- · for best injection results, must be fitted to both ends of channel (in case of long channel



RASCOtec IC Connector Cap

Applications

· connection of two RASCOtec injection channels



RASCOtec IC Sealing End

Applications

• inserted into opening at end of injection channel to prevent infiltration of cement fluid



RASCOtec Injection Hose C6-11

Properties

- allows multiple injection provided grout is vacuum-removed from system after injection (not possible with epoxy or polyurethane products)
- injection possible even years after installation
- · prevents infiltration of cement fluid
- · hardwearing material
- time-saving installation
- 28 escape holes per 10 cm length

Applications

- preventive waterproofing of construction joints
- can be fixed to waterbars with special clips, thus making these areas injectable



Hose connector Snap-In

Applications

- connecting several sections of the injection hose
- connecting the injection hose to the connecting hoses (fabric hose)



RASCOtec Approach hose

Applications

• Connection hose for injecting the injection hose



RASCOtec Injection Box AX-C6

Applications

• injection points in a wall accessible at any time through the injection box mounted on formwork







Injection Nipple M8

Applications

 Connection point for injecting the injection hose through the injection box





Fabric Hose PVC, red / transparent

Applications

- Extension of the injection hose for easy injection
- due to two different colors the beginning and the end of the injection hose can be recognized at any time



RASCOtec Crack Inducer

Properties

- controlled shrinkage cracks
- may be widened to suit requirements with RASCOtec extension board
- · workable as wood
- weldable
- weather-independent installation

Applications

- controlled formation and waterproofing of cracks in concrete
- allows uninterrupted casting of concrete bays of unlimited size



RASCOtec CI Feeder Cap

Applications

- end of crack inducer with hose fitting to simplify injection
- for best injection results, must be fitted to both ends of crack inducer (in case of long crack inducer sections)



RASCOtec CI Connector Cap

Applications

connection of two RASCOtec crack inducer components



RASCOtec CI Plug Cap

Applications

 pushed on at end of crack inducer to prevent infiltration of cement fluid



RASCOtec Extension Board

Applications

 widening of area for crack formation and later injection (e.g. for thicker floor)



RASCOtec Collar

Properties

- easy fixing
- · use in conjunction with any material type
- independent of geometry of built-in component
- weather-independent installation

Applications

- allows injections at junctions with penetrating components (e.g. pipes, shafts, groundwater relief pipes, gullies etc.)
- independent of component's constituent material



RASCOtec MSB Collar Strap, Full Set

Properties

- plastics collar strap
- incl. prefitted connection spigot
- available in 110, 125 or 150mm widths



RASCOtec Collar Foam

- foam insert for RASCOtec collar
- available in 110, 125 or 150mm widths







RASCOtec Multiple-Penetration Unit

Properties

- easy fixing
- use in conjunction with any material type
- independent of geometry of built-in component
- weather-independent use

Applications

allows simultaneous injection for several adjacent pipes (e.g. water pipes, borehole heat exchangers etc.)

RASCOtec Expansion Joint



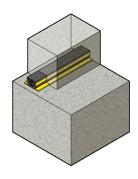
Properties

- · easy fixing
- may be used in conjunction with dowel bars
- workable as wood
- weldable

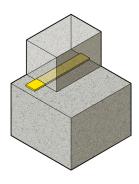
- waterproofing of expansion joints up to 20mm wide in building and civil engineering works
- accommodation of movement equal to 10 15% of joint width when installed



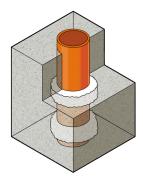
HYDROPHILIC SYSTEMS RASCOtight HYDROPHILIC SYSTEMS







RASCOtight Hydrophilic Strip



RASCOtight Hydrophilic Paste

RASCOtight Hydrophilic Systems – Intelligent swelling technology for reliable and long-lasting waterproofing.

RASCOtight Hydrophilic Systems

Waterproofing structures against penetrating water poses a unique challenge. RASCOtight Hydrophilic Systems provide the ideal solution by utilizing water-reactive materials that swell upon contact with moisture, creating a reliable and long-lasting sealing effect.

The reversible swelling capability ensures that the seal remains flexible and adapts optimally to structural movements and changing pressure conditions in the concrete. With a wide range of products, RASCOtight offers tailored solutions for various waterproofing requirements.

RASCOtight Hydrophilic Channel

The RASCOtight Hydrophilic Channel combines the advantages of a swelling system with those of an injection system. During installation, the joint is already sealed by the hydrophilic material, which expands upon water contact to provide reliable protection. Special swelling connectors divide the channel system into individual sections, allowing for targeted re-injection in case of future leaks.

The flexible, hydrophilic side lips adapt perfectly to the joint surface, ensuring a continuous and seamless seal. Additionally, the simple fastening with anchor bolts allows for rapid and efficient installation.

Advantages: integrated sealing during installation, easy re-injection, flexible adaptation to the joint surface, weather-independent.

Use: tunnel construction, building construction, civil engineering, structures with complex joint layouts.

RASCOtight Hydrophilic Strips

The synthetically manufactured RASCOtight Hydrophilic Strips swell upon contact with water, reliably sealing joints through the resulting swelling pressure. Since their sealing effect does not depend on adhesion to the surface, these strips are ideal for sealing joints between various materials.

They are available in different thicknesses and also as a self-adhesive variant, facilitating installation on smooth surfaces such as plastic or steel. Their reversible swelling capability ensures a long-lasting and flexible waterproofing solution.

Advantages: cost-effective, reversible swelling process, easy installation, self-adhesive variants available.

Use: structural joints, pipe penetrations, connections to different materials.



RASCOtight Hydrophilic Paste

The RASCOtight Hydrophilic Paste is particularly suitable for sealing penetrations with complex shapes, such as steel profiles, cable entries, or anchor heads. It can be easily and precisely applied using a standard caulking gun and adheres reliably to concrete, metal, and plastic.

Its reversible swelling capability upon water contact allows the paste to flexibly adapt to movements and changing pressure conditions, ensuring a reliable seal even in challenging installation situations.

Advantages: excellent adhesion, universally applicable, reversible swelling process, easy application.

Use: steel beams, cable and pipe penetrations, complex structural penetrations.

RASCOtight Hydrophilic Gasket/Plug

RASCOtight Hydrophilic Gaskets prevent water from penetrating along formwork tie rods that pass through concrete walls. They are placed centrally around the tie rod and form a reliable water barrier through their swelling capability.

Additionally, the RASCOtight Hydrophilic Plug ensures that no water can enter through the hollow spaces of the tie rods. The combination of the hydrophilic gasket and plug provides a comprehensive and long-lasting sealing solution.

Advantages: easy installation, reversible swelling process, suitable for various diameters.

Use: formwork tie rods in concrete walls, building construction and civil engineering, structures in groundwater environments.











RASCOtight Hydrophilic Connector

The RASCOtight Hydrophilic Connector ensures seamless sealing at transition points between hydrophilic sealing elements. It connects individual components into a continuous waterproofing system and allows for targeted re-injection if needed.

With its flexible adaptation to various joint layouts and the combination of swelling capability and injection technology, the hydrophilic connector guarantees a secure and long-lasting sealing solution.

Advantages: seamless sealing, compatible with injection systems, re-injectable, temperature and weather independent.

Use: transitions between floor and wall joints, structures with complex geometries.

- 1 Wall-to-wall application in the portal area of a tunnel
- Floor-to-wall application in building construction
- RASCOtight Hydrophilic Strip (self-adhesive) applied to a pipe
- 4 RASCOtight Hydrophilic Paste applied to a steel profile
- Installed formwork tie rod with RASCOtight Hydrophilic Ring





RASCOtight Hydrophilic Systems



RASCOtight Hydrophilic Channel

Properties

- · straightforward application
- double protection
- inexpensive alternative to RASCOtec injection channel

Applications

waterproofing of all types of permanently accessible construction joint



RASCOtight Hydrophilic Connector

Applications

• connection of RASCOtight hydrophilic channels

RASCOtight Hydrophilic Strip

tor rascol

Properties

- · swells upon contact with water
- · reversible swelling
- very straightforward application
- non-absorbent
- suitable for saltwater applications
- · protective coating delays initial swelling
- width 20mm, height 3 or 10mm

Applications

- waterproofing of construction joints
- ancillary measure for other waterproofing systems, sealing of shafts, pipes and other penetrations



RASCOtight SK Hydrophilic Strip (self-adhesive)

Applications

- suitable for dry, smooth, non-cementitious bases
- waterproofing of shafts, pipes and other penetrations made from PVC, PE, cast iron, metal etc.
- waterproofing of penetrations with complicated geometries (e.g. steel sections)



RASCOtight QB F2.0 Hydrophilic Waterproofing Strip

Properties

- swells upon contact with water
- reversible swelling
- efficient, flexible installation, also in walls
- high swelling capacity
- suitable for saltwater and sulphate exposure
- combinable with additional acrylate injection products
- width 35mm, height 35mm

Applications

remedial waterproofing of expansion joints subject to relatively large movement

RASCOtight Hydrophilic Gasket



Properties

- · swells upon contact with water
- reversible swelling
- efficient, flexible installation, also in walls
- high swelling capacity
- suitable for saltwater and sulphate exposure
- combinable with additional acrylate injection products
- available with 26 or 43mm internal diameter

Applications

remedial waterproofing of expansion joints subject to relatively large movement







RASCOtight Hydrophilic Tie Bolt Plug

Properties

- swells upon contact with water
- reversible swelling
- very straightforward application
- length 22mm
- · diameter 23mm

Applications

• waterproofing of plastics or fibre-cement tie bolts



RASCOtight Hydrophilic Paste

Properties

- bonds well to concrete, metal and plastics
- swells upon contact with water
- reversible swelling
- very straightforward application
- 310ml cartridge

- standard joint sealing
- waterproofing of penetrations with complicated shapes, e.g. steel sections, anchor heads, cable entries etc.





ADHESIVE SYSTEMS

RASCObond Adhesive Systems



RASCObond Fixing Adhesive

Properties

- bonds well to concrete, metal and plastics
- very straightforward application
- 290ml cartridge

Applications

• installation of hydrophilic strips



RASCObond EP Adhesive Filler

Properties

- high tensile bond strength on concrete and steel
- thixotropic
- · high mechanical strength after curing
- shrinkage-free

Applications

- fixing of waterbars
- installation of adhesive packers (metal and plastics)
- sealing of cracks and joints
- structural bonding of precast-concrete units
- structural strengthening with bonded reinforcement

RASCObond FLX121



Properties

- very strong surface adhesion
- accommodates movement due to high bond strength
- very straightforward application
- jointless surface after curing

Applications

- in case of high concrete alkalinity
- where moisture arises, on surface of structure
- on dry and wet concrete, steel, stainless steel, stone, plastics etc.



RASCObond FLX121 UV

Applications

• areas with high exposure to atmospheric action





RASCOjoint Adhesive Systems



RASCOjoint TPE Waterbar

Properties

- · readily weldable
- permanently elastic
- high chemical resistance
- UV-resistant
- available in range of widths and thicknesses

Applications

• waterproofing of cracks, tie bolt locations, construction and movement joints





Pumps and Accessories RASCOpump Maschines



RASCOpump HJP 14 II-22

Properties

- stepless flow and pressure regulation
- delivers 86 ccl (86 ml) per double stroke
- maximum operating pressure up to 200 bar
- · pneumatically operated
- · built-in analog stroke counter
- all material-carrying parts are made of stainless steel

Applications

- 2-component high-pressure grouting machine for injection of acrylate grouts, polyurethane, and urea-silicate
- injection in proportions 1:1

Mixing head 2C RAS (AY) Mixing head 2C DN 10 (PU/US)

High-Pressure Injection Hose EFS

Properties

- · length 12m, internal diameter 6mm
- for A- and B-components

RASCOpump HJP 14 III-22

Properties

- · continuous flow and pressure control
- delivers 86 ccm (86 ml) per double stroke
- reliable operating pressure up to 200 bar
- operated only by compressed air
- · built-in analog stroke counter
- all parts in contact with material made from stainless

Applications

- 2-Component High-Pressure Injection Machine including rinsing pump for the injection of acrylates
- injection in proportions 1:1

Mixing head 3C RAS Mixing head 3C

High-Pressure Injection Hose EFS

Properties

- length 12m, internal diameter 6mm
- for A-, B- and C-components (rinsing hose)



RASCOpump HJP 15-25 2C

Properties

- continuous flow and pressure control
- delivers 194 ccl (194 ml) per double stroke
- maximum operating pressure up to 240 bar
- pneumatically operated
- built-in analog stroke counter
- all parts in contact with material made from stainless steel

Applications

- 2-Component High-Pressure Injection Machine including rinsing pump for the injection of polyurethane, and urea-silicate
- injection in proportions 1:1



RASCOpump Membran SF 23 CR

Properties

- continuous pressure control up to 250 bar
- electric operation at 230V/50 Hz
- long service life thanks to low stroke frequency
- cleaning and maintenance possible directly on site
- up to 156 ltr/h flow rate

Applications

• 1-component grouting machine for injection of 1-component polyurethane grouts







RASCOpump 2-Comp. Chamber Cartridge Dispenser (Manually)

Properties

- · manually operated
- compact size, easy to take along
- the pressure can be regulated by the manual force applied.

Applications

- 2-component cartridge dispenser for injection using RASCOflex cartridges
- injection in small or constrained working spaces



RASCOpump 2-Comp. Chamber Cartridge Dispenser (Battery)

Properties

- battery-operated (rechargeable lithium-ion battery)
- · compact size, easy to take along
- pressure force up to 8.00 kN
- weight only 2.7 kg
- supplied in easily portable case

Applications

- 2-component cartridge dispenser for injection using RASCOflex cartridges
- injection in small or constrained working spaces
- rapid deployment and low material consumption



RASCOpump 2-Comp. Chamber Cartridge Dispenser (Compressed Air)

Properties

- compressed-air-operated
- · compact size, easy to take along
- working pressure up to 6.8 bar
- · variable pressure setting
- compressed air supply of up to 10 bar possible

Applications

- 2-component cartridge dispenser for injection using RASCOflex cartridges
- needs only small compressor
- can be used continuously over long periods (subject to permanent compressed air supply)

RASCOpump Mixing Heads



Mixing head 2C RAS

Applications

- For the injection of RASCOflex acrylate grouts
- Suitable for the RASCOpump HJP 14 II-22



Mixing head 3C RAS

Applications

- For the injection of RASCOflex acrylate grouts
- Suitable for the RASCOpump HJP 14 III-22



Mixing head 3C

Applications

- For the injection of RASCOflex acrylate grouts
- Suitable for the RASCOpump HJP 14 III-22



Mixing head 2C DN 10 (PU/US)

- For the injection of RASCOflex polyurethane and urea silicate grouts
- Suitable for the RASCOpump HJP 14 II-22 and RASCOpump HJP 15-25 2C





RASCOpump Hose Package



HD-Injection hose EFS, Comp. A

Properties

• Length 12 m, internal-ø 6 mm

Applications

- For all RASCOpump HJP types
- Screw connections 1/4"-RF
- · Hose marking blue



HD-Injection hose EFS, Comp. B

Properties

• Length 12 m, internal-ø 6 mm

Applications

- For all RASCOpump HJP types
- Screw connections 1/4"-RF
- Hose marking red



HD-Injection hose EFS, Comp. C

Properties

• Length 12 m, internal-ø 6 mm

Applications

- For all RASCOpump HJP types
- Screw connections 1/4"-RF

STECK-O CONNECTION SYSTEMS

	Static mixer	PropertiesDN 10 – 16 mm, complete including mixing element
(A)	Ball valve	PropertiesDN 10, with double handle, coupler/nipple
	T-coupler	Properties • DN 10
	Straight coupler	Properties • DN 10
	Screw nipple	Properties • DN10 - 1/4", Internal thread
	Female threaded union	Properties • DN10 - 1/4", Internal thread
(=) =):	Sealing plug	Properties • DN 10
\bigcap	Securing clip	Properties • DN 10
900000000	Mixing element	Properties • 16 mm for mixing tube





RASCOR INJECTION PACKER

Steel Packer



Steel Packer, diameter 9.5 - 15mm (with pan-head nipple)

Properties

- available in diameters from 9.5 to 15mm
- length 115mm
- with 40mm long foam rubber



Steel Packer, diameter 9.5 - 15mm (with round-head nipple)

Day construction site packer



Day construction site packer, Ø 10 mm (with cone nipple)

Properties

- diameter 10 mm
- length 110mm

Screw Packer



Screw Packer, diameter 9mm

Properties

- diameter 9mm
- length 190mm
- nominal length 170mm
- all parts made from stainless steel



Screw Packer, diameter 12mm

Properties

- diameter 12mm
- length 210mm
- nominal length 135mm
- all parts made from stainless steel



Screw Packer, diameter 12mm

Properties

- length 340mm
- nominal length 265mm



Screw Packer, diameter 18mm

Properties

- diameter 18mm
- length 280mm
- nominal length 210mm
- all parts made from stainless steel



Screw Packer, diameter 18mm

Properties

- length 520mm
- nominal length 440mm



Screw Packer, diameter 18mm

- length 1000mm
- nominal length 920mm





Nail Packer



Nail Packer DV (double valve)

Properties

- diameter 10mm
- length 66mm
- with double valve



Nail Packer EV (single valve)

Properties

- diameter 10mm
- length 55mm

Lamella Packer



Lamella Packer, diameter 12_{mm}

Properties

- diameter 12mm
- length 69mm
- with round-head nipple



Lamella Packer, diameter 12mm

Properties

- diameter 12mm
- length 77mm
- · with air hose plug and check valve



Lamella Packer, diameter **18mm**

Properties

- diameter 18mm
- length 107mm
- · with pan-head nipple and shut-off slide



Lamella Packer, diameter 18mm

Properties

- diameter 18mm
- length 110mm
- with air hose plug and check valve





Impact Tool for Lamella Packer (packer with air plug)

Properties

- diameter 20mm
- length 140mm
- made from (white) plastics





Impact Tool for Lamella Packer (packer with round-head nipple)

Properties

- diameter 20mm
- length 140mm
- made from (white) plastics





Impact Tool (packer with flat-head nipple)

- diameter 20mm
- length 170mm
- · made from (black) plastics





ADDITIONAL ACCESSORIES



Aluminium Sliding Coupling, 3mm

Properties

- internal thread M 10 x 1 mm
- with a passage of 3 mm
- straight connection
- for flat nipple



Aluminium Sliding Coupling, 5mm

Properties

- internal thread M 10 x 1 mm
- with a passage of 5 mm
- 90° angled connection
- for flat nipple



Coupler 4-jaws

Properties

- internal thread M 10 x 1 mm
- for all cone head nipples



Whip M 10 x 1 mm

Properties

- diameter of 11 mm
- external thread M 10 x 1 mm
- · length of 300 mm
- max operating pressure 400 bar



Whip G1/4" to M 10x1

- diameter of 13 mm
- external thread G1/4" to M10x1 mm
- length of 300 mm
- max operating pressure 400 bar



Let's Work Together – Your Partner for Sustainable Waterproofing.

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