

Dealer:

www.fischer-international.com



fischer stands for

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fischertechnik
Consulting
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Bond and Seal. For construction and trade.



Discover the advantages of bonding.

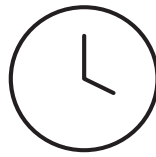
In the building sector, adhesive bonding is gaining more and more importance as an alternative to traditional fixing methods. The reasons for this lie in the various advantages of adhesive bonding, which are described below.

Combination of different materials



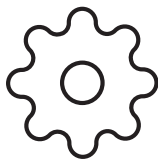
- Compensation of thermal expansion of materials
- Compensation of shocks and vibrations
- Complex geometries can be realised
- Connection of thin materials possible

Quick and easy installation



- No other tools necessary apart from the dispenser
- No precise measurements and preparatory work necessary
- No dust formation due to drilling processes
- Adjustment after fitting the elements
- Compensation of unevenness of the parts to be joined

Additional functions



- Damping of sound, vibrations and shocks
- Expansion possibilities through the adhesive joint
- Sealing and corrosion protection
- Electrical insulation

Maximum safety



- No weakening of the joined parts due to drilling, nails or welding
- Force distribution over the entire surface reduces stress peaks and avoids material fractures



Find the right product for your application.

Sealants and adhesives



Flex MS



Crystal MS



Multi MS



High Tack MS



Express MS



Express PU



High Tack AC

	Sealing	Sealing & Bonding	Bonding				
Characteristics	Highly flexible & paintable	Crystal clear	Universal	Extremely high initial tack	Fast-curing & strong	Extremely strong & fast curing	High initial tack
Adhesive technology	Hybrid (MS - modified silane polymers)					Polyurethan (PU)	Acrylate (AC)
Outdoor applications	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Elasticity	●●●●●	●●●○○	●●●●○	●●○○○	●○○○○	●○○○○	●○○○○
Initial adhesion	●●○○○	●●○○○	●●○○○	●●●●●	●○○○○	●○○○○	●●●●●
Quick strength build up	●●○○○	●●○○○	●●○○○	●●○○○	●●●●●	●●●●●	●●○○○
Final adhesion	●○○○○	●●○○○	●●○○○	●●○○○	●●●○○	●●●●●	●●●○○
Colours	White, Grey	Transparent	White, Grey, Black	White	White	Beige	White
Special features	Bubble-free curing, Adhesion to damp substrates	Compatible with natural stone	Compatible with mirrors	Compatible with natural stone, Compatible with mirrors	Thin glue lines	Compatible with natural stone, Water-resistant D4	Compatible with natural stone, Water based
Suitable for the following construction kits							
Aluminium	●	●	●	●	●	● ¹⁾	○
Stainless steel	●	●	●	●	●	●	●
Copper, brass	●	●	●	●	●	○	○
ABS	●	● ²⁾	●	●	● ²⁾	○	○
Glass fibre reinforced plastic	●	●	●	●	●	●	●
PMMA (Plexiglas, Polycarbonat)	○	○	○	○	○	○	○
PVC	●	●	●	●	●	●	○
Styrofoam	● ²⁾	●	● ²⁾	● ²⁾	●	●	●
Wood, MDF boards, Chipboard	●	●	●	●	●	●	●
Concrete, Plaster, Artificial stone	●	●	●	●	●	●	●
HPL	○	○	○	○	○	●	○
Natural stone	○	●	○	●	●	●	●
Glass	●	●	●	●	●	○	●
Mirror	○	●	●	●	●	○	●
Porcelain, Ceramics, Tiles	●	●	●	●	●	●	●
Non-absorbent substrates	● ³⁾	● ³⁾	● ³⁾	● ³⁾	● ³⁾	● ⁴⁾	○

○ not suitable

● suitable

¹⁾ only on chemically pre-treated or painted surfaces²⁾ must be tested for the respective application³⁾ extended curing times⁴⁾ after initial joining, separate again, sprinkle both sides with water and rejoin and press within the skin forming time

These specifications are recommendations. Due to the variety of applications, materials and environmental conditions, tests under real conditions should always be carried out in advance.

Flex MS.

The permanently elastic sealant for expansion joints.



Characteristics

- Chemical basis: 1-component hybrid MS polymer
- Working temperature +5 °C to +40 °C
- Skin formation after approx. 90 minutes
- Curing: 2-3 mm / 24h
- Hardness Shore A 25
- Temperature resistance: -30 °C to +70 °C
- Shrinkage < 4 %
- 100 % bubble-free curing
- E-modulus at 100% elongation 0.45 N / mm²
- Suitable for bonding non-absorbent components
- Solvent-, isocyanate- and silicone-free
- Waterproof and seawater resistant (but not for permanent exposure)



High elasticity
(25%)



Application
on damp
substrates



Paintable



No bubble
formation



Odorless



Prevents
mould growth



Weather-,
ageing and
UV resistant

Approvals

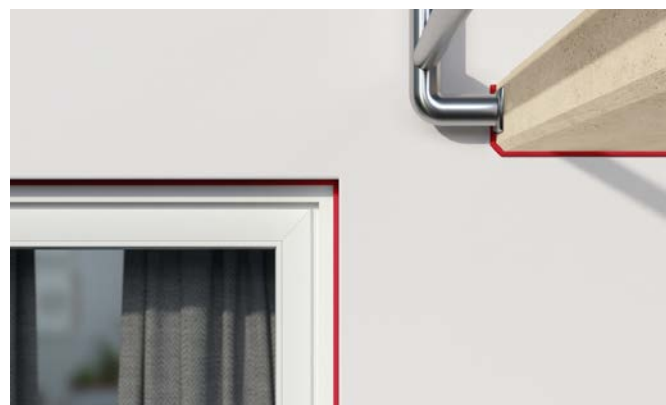


EN 15651-1:2012 F-EXT-INT-CC (25 LM)
EN 15651-4:2012 PW-EXT-INT-CC (25LM)

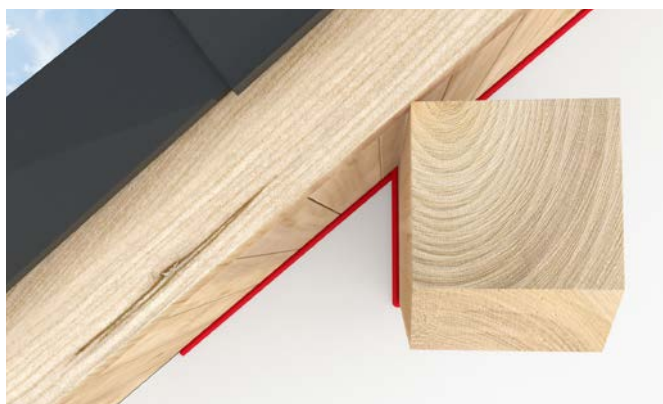
Applications



Joints in the facade area



Movement joints in outdoor areas



Exterior connection joints



Sealing in the kitchen area



Grouting on tiles and slabs



Floor joints

Crystal MS.

The transparent sealant and adhesive for interior and exterior use.



Characteristics

- Chemical basis: 1-component hybrid MS polymer
- Working temperature: +5 °C to +40 °C
- Curing time: approx. 4.5 mm / 24h
- Hardness Shore A 40 ± 5
- Temperature resistance: -40 °C to +110 °C
- Adheres even to damp substrates
- Suitable for bonding non-absorbent components
- Solvent-, isocyanate- and silicone-free
- Waterproof and seawater resistant



Transparent



Adhesion up to 180 kg/m² after 10 s



High elasticity (12,5%)



Compatible with natural stone



Processing time 5 min



Paintable



Prevents mould growth



Weather-, ageing and UV resistant

Approvals



EN 15651-1:2012 F-EXT-INT (12,5P)
EN 15651-3:2012 S (S1)

Applications



Bonding in the bathroom



Invisible bonding on glass



Exterior bonding



Exterior sealing joints



Bonding of window bars



Bonding of natural stone tiles and slabs

Multi MS.

The universal sealant and adhesive.



Characteristics

- Chemical base: 1-component hybrid MS polymer
- Colours: White, grey, black
- Working temperature: +5 °C to +40 °C
- Curing time: approx. 3 mm / 24h
- Hardness Shore A 52
- Temperature resistance: -40 °C to +90 °C
- For bonding non-absorbent components
- Solvent-, isocyanate- and silicone-free
- Waterproof and seawater resistant



High elasticity
(25%)



Initial adhesion
up to 185 kg/m²
after 10 s



Application
on damp
substrates



Processing
time 5 min



Paintable



Prevents
mould growth



Weather-,
ageing and
UV resistant

Approvals



EN 15651-1:2012 F-EXT-INT-CC (25HM)
EN 15651-4:2012 PW-EXT-INT-CC (25HM)
EN 15651-3:2012 S (XS3)

Applications



Floor joints



HVAC according to DIN EN ISO 846



Bonding of different materials



Mirror attachment



Bonding and grouting skirting boards and tiles



Connection joints in the bathroom

High Tack MS.

The elastic adhesive with extremely high initial tack.



Characteristics

- Chemical basis: 1-component hybrid MS polymer
- Colour: White
- Working temperature: +5 °C to +40 °C
- Curing time: 2-3 mm / 24h
- Hardness Shore A 56
- Temperature resistance: -40 °C to +90 °C
- Suitable for bonding non-absorbent components
- Solvent-, isocyanate- and silicone-free
- Waterproof and seawater resistant



Maximum
initial tack
(~520 kg / m²)



Compatible
with natural
stone



Application
on damp
substrates



Processing
time 5 min



High elasticity



Weather-,
ageing and
UV resistant



Paintable

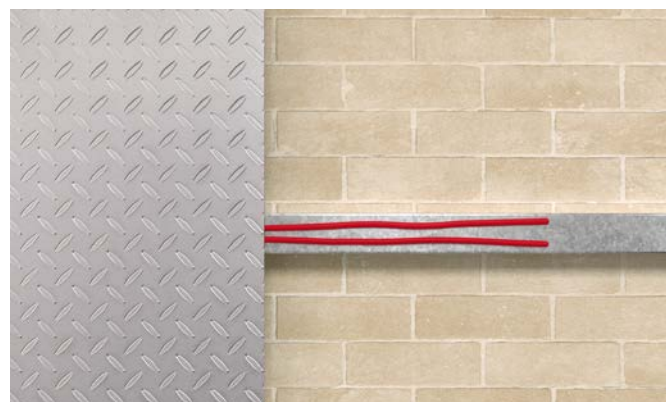
Approvals



Applications



Insulation boards



Bonding wall cladding



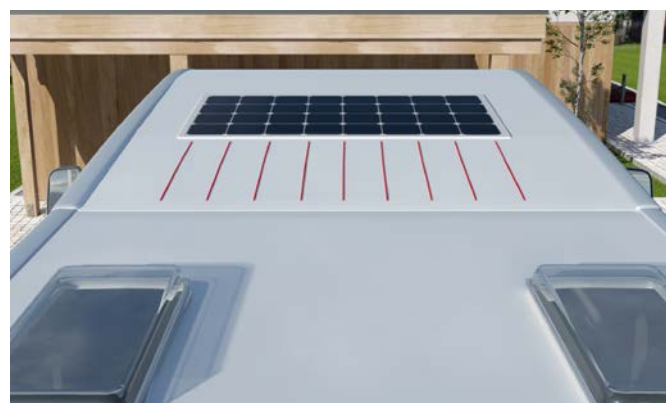
Outdoor fixings



Mirror attachment



Fixing natural stone tiles and slabs



Bonding in the automotive sector

Express MS.

The adhesive with fast strength build-up.



Characteristics

- Chemical basis: 1-component hybrid MS polymer
- Colour: White
- Working temperature: +5 °C to +30 °C
- Hardness Shore A 70 ± 5
- Temperature resistance: -30 °C to +90 °C
- Functionally stable after 60 min
- Suitable for bonding absorbent and non-absorbent components
- Solvent-, isocyanate- and silicone-free
- Waterproof and seawater resistant



Hand-tight
after 20 min



High final
strength
36 kg / cm²



Thin glue lines



Application
on damp
substrates



Processing
time 5 min



Weather-,
ageing and
UV resistant



Paintable

Approvals



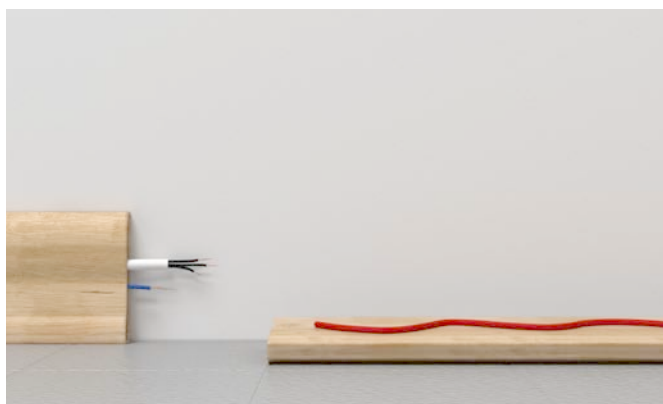
Applications



Fastening of electrical installations



Bonding wall cladding



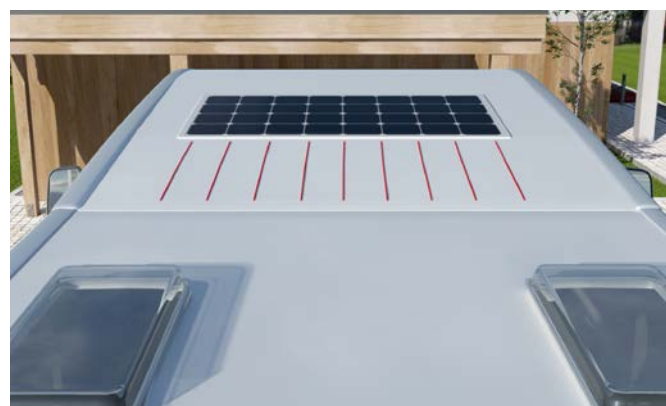
Skirting board fastening



Mounting brackets



Bonding in stair construction



Bonding in the automotive sector

Express PU.

The adhesive with fast strength build-up and highest final adhesion.



Characteristics

- Chemical basis: 1C PUR adhesive
- Colour: Beige
- Working temperature: 0°C to +35°C
- Functional strength after approx. 10 min (with zero joint)
- For bonding non-absorbent components
- Solvent and silicone free
- Does not drip in overhead applications
- Easily foaming and bridging gaps



High final strength
100 kg/cm²



press components
for 10 min



Compatible
with natural
stone



Processing
time 3 min



Weather-,
ageing and
UV resistant



Water-resistant
according to
DIN EN 204 D4



Temperature
resistant from
-40°C bis +110°C



Paintable

Approvals



Applications



Wall head covers



Bonding wall cladding



Bonding in stair construction



Outdoor fixings



Bonding of different materials



Fastening cable ducts

High Tack AC.

The water-based assembly adhesive with high initial adhesion.



Characteristics

- Chemical basis: 1K acrylic dispersion (water-based)
- Colour: Cream white
- Working temperature: +10°C to +30°C
- Temperature resistance: -20°C to +60°C
- Functionally stable after 24 h - 48 h
- Solvent-, silicone- and MDI-free
- Does not drip in overhead applications
- For indoor use



Initial adhesion
to 345 kg/m²
after 10 s



High final
strength of
45 kg / cm²



Compatible
with natural
stone



Processing
time 5 min



Nearly
emission-free
and odourless

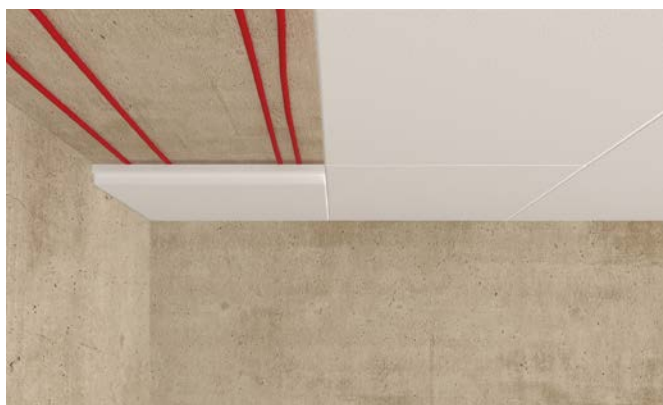


Paintable

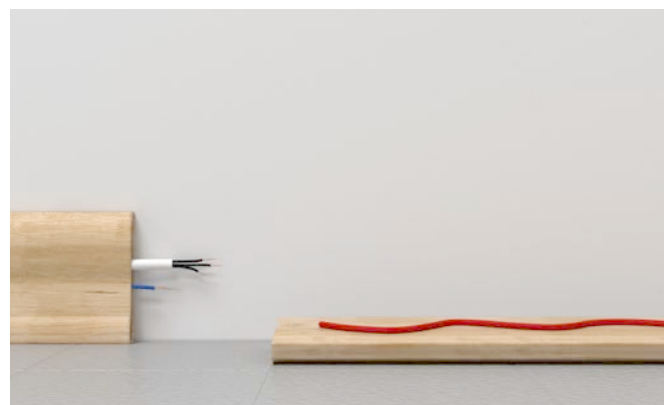
Approvals



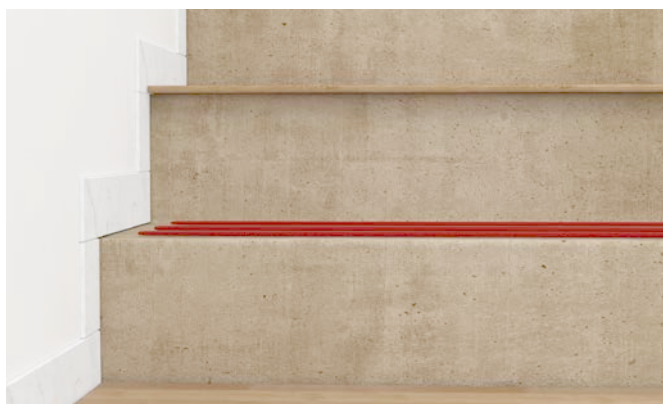
Applications



Insulation boards



Skirting board fastening



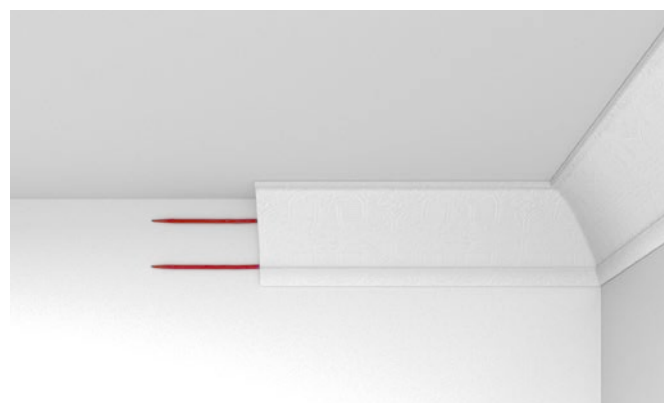
Bonding stair treads



Window sill bonding



Indoor fixings



Fixings of decorative elements

Processing instructions for bonding and sealing.

Strong surfaces

The surface is often the limiting factor, because a bonded joint can never support more than the surfaces of the materials being bonded. Plastered, painted or tiled materials usually have a weaker surface than bare concrete, wood or metal. The direction of load also has an influence on the bonded joint. Shear forces should be avoided.

Clean surfaces

The surfaces should be cleaned beforehand to create a surface free of dirt and grease (e.g. with cleaning alcohol). Only then sealants and adhesives can optimally establish their chemical or mechanical bond with the surface. For most sealants and adhesives, the surfaces should also be dry. However, fischer hybrid-based sealants and adhesives can also be used on damp surfaces, which is why they are ideal for outdoor use or for damp cellar rooms and are particularly user-friendly. Our hybrid-based products are identified by the MS in their product names.

The right choice of sealant or adhesive

Not every product is suitable for every application. The materials to be bonded or sealed and their surfaces (e.g. porous or smooth), the environmental conditions (e.g. outdoor or indoor application), temperatures during application and later use, as well as the desired colour of the joint are decisive. It is also important to consider whether temporary pre-fixation is possible, how long the product can be applied and how long the joint have to cure before the first load is applied. Information on these criteria can be found on the cartridges, as well as in the technical data sheets on the fischer website. Trial bonding can provide additional certainty and is recommended especially for first-time applications.

The correct application

One-component sealants and adhesives cure by absorbing or releasing moisture. Therefore, the surface size of the adhesive joint and the materials to be bonded play a central role. They determine whether and how quickly the adhesive cures. The larger the surface of the glue line, the better it can exchange moisture with the ambient air. For this reason, it is advisable to apply the adhesive in strips or dots and not flat. For outdoor applications, the strips should also be applied vertically to prevent water from accumulating on the joint. Porous or "absorbent" materials, such as wood or concrete, also support the necessary moisture exchange. For this reason, not all sealants and adhesives are suitable for smooth surfaces, such as metals or painted surfaces.

Different adhesive technologies

Each adhesive technology has its individual advantages and disadvantages. Depending on the application and conditions of use, different chemical compositions are suitable. The following overview is intended to provide orientation for choosing the right chemical base.

Adhesive technologies						
Type	Hybrid (MS Polymere)	Polyurethane rigid	Polyurethane elastic	Silicones	Acrylate water based	Solvent based
Temperature resistance	●●●○○	●●●○○	●●●○○	●●●●●	●●○○○	●●○○○
Weather resistance	●●●●○	●●●●●	●●●○○	●●●●●	●○○○○	●●●○○
Water resistance	●●●●○	●●●●●	●●●○○	●●●●●	●○○○○	●●●○○
UV resistance	●●●●○	●○○○○	●○○○○	●●●●●	●●●○○	●●●○○
Elasticity	●●●●○	●○○○○	●●●●○	●●●●●	●●○○○	●○○○○
Final adhesion	●●●●○	●●●●●	●●●○○	●●○○○	●●●○○	●●●○○
Compatibility for humans and the environment	●●●●●	●○○○○	●○○○○	●●○○○	●●●●○	●○○○○
Application on damp substrates	Yes	No	No	No	No	No
Paintable	Yes	Yes	Yes	No	Yes	No
fischer product family (adhesive technology)	MS	PU	PU	SI	AC	SB

The differences between elastic and rigid bonding.

Depending on the application, elastic or rigid adhesives are more suitable. The following comparison shows the advantages and disadvantages of the respective adhesive properties.

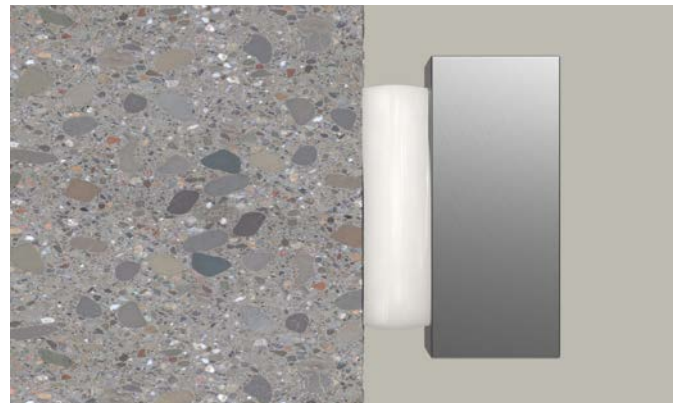
Elastic bonding:

For this, the adhesive is applied in a thicker layer and only pressed carefully. This creates an elastic layer between the bonded materials that can compensate for forces and movements and distribute them evenly. Although these adhesives often have lower final bonding strengths than rigid adhesives, they are more suitable for some applications because local stress peaks are avoided, which are often the cause of failure. In addition, these types of joints can perform sealing functions. Typical examples are silicone or hybrid adhesives. Elastic adhesives are particularly well suited for bonding different materials and uneven or cyclic loads on the adhesive joint.



Rigid bonding:

Usually, a relatively thin film of adhesive is applied here and the materials to be bonded are pressed firmly against each other. The adhesive joint is hard and transmits forces and movements directly to the joined materials. Typical adhesives of this type are water-based or epoxy resin-based. Therefore, rigid construction adhesives are particularly suitable for bonding similar materials and when loads are even. If the load is aligned accordingly, very large forces can be transferred in this way.



Things to know about different sealants.

The reliability of sealing joints depends on several factors, such as the way individual construction elements are joined, the sealing between the components and, of course, the ingredients of the sealing adhesive.

fischer sealants withstand a wide range of joint stresses, such as pressure, temperature, moisture, traffic or mechanical effects. The fischer sealants also meet a wide range of requirements against external influences such as rain, UV rays, wind, sound or internal influences such as moisture, paints, cleaning products and mechanical effects.

Physical properties:

- **Elastic sealants** have a high resilience ($\geq 70\%$) and a high permissible total deformation ($\geq 20\%$). After completion of the chemical reaction, they can be reversibly deformed by external force (stretching or compression).
- **Plastic sealants** have no or only a very low recovery capacity ($< 20\%$) and a low permissible total deformation (up to approx. 5%). After the physical or chemical reaction, occurring force effects quickly lead to permanent deformations or to tears.
- **Elasto-plastic and plasto-elastic sealants** are mixed or transitional forms between elastic and plastic sealants.

Joint types:

- **Static joints:**
The movement of the joint between the elements is $< 7\%$
- **Connection joints:**
The movement of the joint between the elements is $< 15\%$
- **Elastic joints:**
The movement of the joint between the elements is $\leq 25\%$

Aids for surface preparation:

- To improve adhesion even on critical surfaces, these materials must be cleaned and primed if necessary. Furthermore, on alkaline substrates as well as on some plastics, the primers provide an effective barrier against chemical influences that can have an unfavourable effect on the sealant and ultimately on the tightness (e.g. plasticiser migration). The fischer sealants as well as primers and cleaners form a coordinated system and achieve an optimum result on critical bonding surfaces.

Assortment

Assortment						
						
Flex MS	Crystal MS	Multi MS	High Tack MS	Express MS	Express PU	High Tack AC
Item	Art.-No.	Colour	Languages on the cartridge	Content		Sales unit [pcs]
Flex MS	558830	White	DE, EN	290 ml, Clip nozzle		12
Flex MS	558831	Grey	DE, EN	290 ml, Clip nozzle		12
Crystal MS	503317	Transparent	DE, EN	290 ml, Clip nozzle with resealable cap		12
Multi MS	59389	White	DE, EN	290 ml, Clip nozzle with resealable cap		12
Multi MS	503318	Grey	DE, EN	290 ml, Clip nozzle with resealable cap		12
Multi MS	503319	Black	DE, EN	290 ml, Clip nozzle with resealable cap		12
Multi MS	563232	White	DE, EN	80 ml, Tube		12
High Tack MS	541712	White	DE, EN	290 ml, Clip nozzle (V-nozzle)		12
Express MS	558829	White	DE, EN, CZ	290 ml, Clip nozzle with resealable cap		12
Express PU	59014	Beige	DE, EN	310 ml, Clip nozzle with resealable cap		12
High Tack AC	53128	White	DE, EN	310 ml, Clip nozzle with resealable cap		12

Accessories				
				
KPM 1	KPM 2 Plus	KPM 3	V-nozzle	Standard nozzle
Item	Art.-No.	Transmission ratio		Sales unit [pcs]
KPM 1	053115	7:1		1
KPM 2 Plus	053117	18:1		1
KPM 3	541441	18:1		1
V-nozzle	563240	–		1 Pack = 5 nozzles
Standard nozzle	563239	–		1 Pack = 5 nozzles

Accessories for applicator guns



KPM 1

- The handy, robust full metal construction for standard cartridges up to 310 ml withstands the demands on the construction site and is therefore also suitable for professional use.
- The stepless feed enables exact dosing and thus ensures easy handling.
- The slim shape of the device enables precise application even in hard-to-reach places and thus offers a high degree of flexibility.

KPM 2 Plus

- The 18:1 transmission ratio enables rapid and gentle squeezing even of highly viscous materials and thus ensures relaxed working.
- The robust design with the specially hardened thrust block withstands the tough demands on the construction site and thus offers a long service life.
- The freely accessible cartridge as well as the rotatable cartridge tray enable the optimal alignment of the squeeze nozzle and ensure application oriented work.
- The switchable overrun stop also enables the processing of low-viscosity compounds.
- The equipment with a ladder hook facilitates the retraction of the push rod and offers a convenient way to carry it during work interruptions.



KPM 3

- The 18:1 transmission ratio enables rapid and gentle squeezing even of highly viscous masses and thus ensures relaxed working.
- The robust design with the specially hardened push block and the hardened push rod withstands the tough demands on the construction site and thus offers a long service life.
- The electro-welded cartridge tray can be rotated freely.
- The freely accessible cartridge allows optimum alignment of the squeeze nozzle and ensures application-oriented work.
- The equipment with a ladder hook facilitates the retraction of the push rod and offers a convenient way of carrying it during work interruptions.