

Sealing Compounds // Adhesives // Cast Resins

epple-sealing compounds bond most different materials. They seal surfaces, convolutions, compression couplings, joints or seams. Whatever you require – yet always reliable and silicone-free.



SEALING COMPOUNDS





Sealing Compounds // Adhesives // Cast Resins

epple offers the right solution for any challenge.
Whether mechanical, thermal or chemical strain –
our products seal reliably.

SEALING COMPOUNDS

About E. Eppler & Co. GmbH

It started 70 years ago with a sealing compound for the waterproofing of flanges and tubes. Today we supply a varied range of adhesives, sealing compounds and cast resins all over the world.

Whether in vehicle construction or engineering, in electronics, in the chemical industry or in space technology – epple provides innovative solutions by conviction and tradition. For us, fascination of bonding and waterproofing is to complete mechanical possibilities. And usually we even exceed them. With this technological race against mechanics we are one step ahead in several fields, e. g. where environmental protection is concerned. Our sealing compounds always used to be free from CHC – and already in 1978, epple came out with the first solvent-free duroplastic sealant. With success. Success for us, but above all for the environment and for our customers.

Just as fluent as our products are the transitions between adhesives and sealing compounds. It was therefore self-evident to also incorporate and to continuously extend our long experience into the production of cast resins and coating technologies. As a result of this, epple today also offers a comprehensive range of special cast resins for the electrical- and electronic industry.

Our linecard is wide and versatile. It ranges from standard products to customised solutions. In addition to the wide epple-product range we offer more than 100 unique and special inventions in our portfolio of adhesives, sealing compounds and cast resins. Their application possibilities vary from laminating resins in the GRP-sector via special applications in the construction of sports equipment to exceptional bondings in vehicle- or aircraft construction.

In order to always find the best solution for our customers, epple works closely with globally leading raw material manufacturers and research facilities, so that there are common patent applications with important companies of the chemical industry and long-time cooperation with renowned international institutes. From experts for experts. For mutual success.



About epple-sealing compounds

epple-sealing compounds assembly most different materials. They seal amongst other surfaces, joints or seams. Whatever you require – yet always reliable and silicone-free.

Our sealing compounds are liquid. They are pastes or fluids, which either remain in their liquid condition (duroplastic waterproofings) or cure whilst being applied (film-forming waterproofings). Liquid sealants come into play where solid sealants reach their limit, for liquid sealants entail decisive advantages: they adapt themselves to any substrate. This saves valuable time, as no extensive pre-treatment is necessary. This means in summary: no troublesome preparation of cavities, steps or notches – and no expensive storage of solid sealants.

Sealing compounds can be classified into static or dynamic systems, depending on whether the sealed components relatively move towards each other or not. Sealing compounds are supposed to avoid the elusion or penetration of liquids, gases or impurities by forming an impermeable barrier. These connections have to remain intact and leakproof over a longer period of time, so that the sealing material has to be resistant against the liquid, solid or gaseous medium it shall encase or exclude hermetically, as well as against the operating temperatures and rock pressure conditions it will be exposed to. This can be achieved both with film-forming and duroplastic sealing compounds and either as surface-, notch- or joint sealing.

There are many kinds of connections, particularly in engineering, in the industry or in building construction. Precisely everywhere where several building components shall form a unified whole. However, their composition and even their place of installation can constantly change, so that the challenges for the connecting technology is correspondingly high. No sealing compound is able to fulfil likewise all these requirements. The right sealing compound has to be chosen in line with the type of connection and field of application. The spectrum ranges from non-curing, duroplastic sealants via curing ones to rigid, non-flexible system. Special types are resistant against aggressive chemicals, e. g. acids and lyes, whereas other systems withstand even extreme heat – partially to up to 800°C. Over and above there are still more requirements: care-intensive building components demand easily detachable and non-bonding sealants, which shall be easy to clean and mostly even also abatable. Whether mechanical, thermal or chemical strain – our sealing compounds ensure reliable connections. And they seal.

epple-sealing compounds

surface sealing		joint sealing	sealing of notches
duroplastic	film-forming curing	film-forming curing	film-forming curing

The application spectrum for sealing compounds is wide – and even as versatile is our range of products. We offer the right solution for any challenge.



To satisfy the individual requirements of our customers, we offer special sealing compounds for almost every type of material, load and connection.



Frequently asked questions about the choice of the appropriate sealing compound:

- Which materials are subject to be sealed?
- Shall solid components or porous materials be connected?
- Which thermal strain will be exposed to the connection?
- Are strains by aggressive chemicals to be expected?
- Will the connection be exposed to high strains, heavy impact, vibration or extreme shearing or pression?

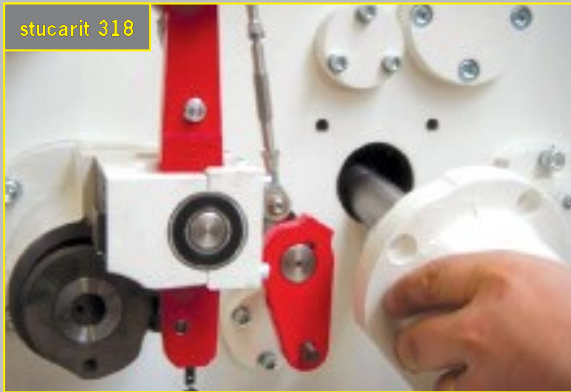
... and its correct application:

- Must the sealant pour into narrow crevices or cracks?
- Which seal gap has to be bridged?
- Is the substrate smooth or porous?
- After which time must the loading capacity be reached?
- How high is the internal pressure?
- How are the flow conditions?
- May a solvent-based product be used?



Surface sealing

Surface sealing – avoids leakage of gears, flanges and housings. Durable and safe, within one day.



stucarit 318

Sealing of: flanges

Specific strengths:

- duroplastic
- solvent-free
- silicone-free
- high stability
- good adjustment to the assembly parts



epple 28

epple 28

Sealing of: housings

Specific strengths:

- abatable
- elastic
- soft
- silicone-free
- resistant against mineral oils
- resistant against synthetic oils

Surface sealings are mainly needed for the waterproofing of gears, flanges and housings. This can both be done by duroplastic and film-forming/curing sealants. Our duroplastic stucarit sealants are solvent-free. You will find all suitable types in the survey on page 10 or in the technical properties on page 9.

At a glance:

Duroplastic:

- solvent-free, duroplastic sealants
- resistant against oils, water, acids and lyes
- resistant against high temperature changes
- resilient without aeration immediately after connection of the flanges
- silicone-free

Film-forming/curing:

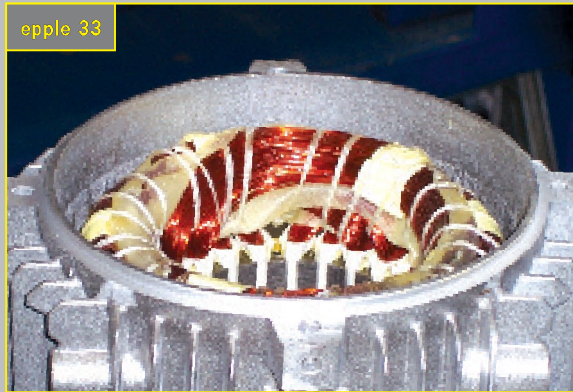
- scratches and roughness are being filled
- resistant against low pressure shortly after fitting
- creation of connections within only one day, removable at any time
- silicone-free



Joint sealing

Please seek for the individual advice of our technicians!

Joint sealing – makes particularly high demands towards the elasticity of the sealing compound. **epple seals any joint**, whether in metal processing or in plastic technology. **Safe.**

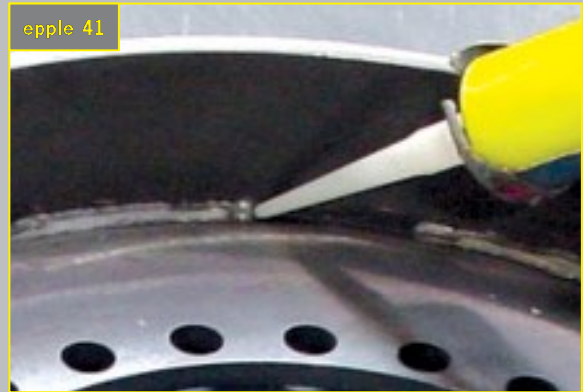


epple 33

Sealing of: engine covers

Specific strengths:

- tough-elastic
- thermal resistance up to 320°C
- chemical resistance against fuels
- silicone-free
- high adhesive strength on metals
- high adhesive strength on absorbing substrates



epple 41

Sealing of: frame components

Specific strengths:

- high elasticity
- chemical resistance against mineral oils
- high adhesive strength on metals
- rapid initial adhesion

epple seals any joint, whether in container- or apparatus engineering, in metal processing or in plastics-, air-conditioning- and ventilation technology. The waterproofing of joints and seams makes particularly high demands towards the elasticity of the sealant. In the cold store as safe as in the space technology. In most cases, the sealants have to adhere to different substrates here, withstand elevated temperatures and coevally resist different chemicals.

At a glance:

- film-forming/curing
- elastic to tough-elastic sealants
- resistant against fuels
- high thermal resistance
- silicone-free
- suitable for different substrates (metals, plastics etc.)



Sealing of notches

Sealing of notches – particularly suitable with high thermal fluctuation, impact and heavy vibration. Heat-stable and safe.



epple 37

Sealing of: enamelling lines, heavy-duty engines

Specific strengths:

- thermal resistance to up to 400° C
- elastic to up to 120° C
- high adhesive strength on metals
- good chemical resistance
- silicone-free



epple 45

Sealing of: ventilation ducts

Specific strengths:

- thermal resistance to up to 180° C
- solvent-free
- silicone-free
- paintable
- elastic

The sealing of notches is particularly frequent in ventilation- and air-conditioning technology, in engineering and with enamelling lines. epple sealants are heat-stable and safe. The demands towards the sealants with regard to stability and elasticity are exceptionally high, particularly with the waterproofing of building components, having notches and being exposed to high thermal fluctuation, impact and heavy vibration.

At a glance:

- film-forming/curing
- suitable for building components or machines exposed to high thermal fluctuation
- thermal resistance to up to 400° C
- resistant against vibration and impact
- the liquid sealant is applied directly to the notches
- elastic to tough
- silicone-free



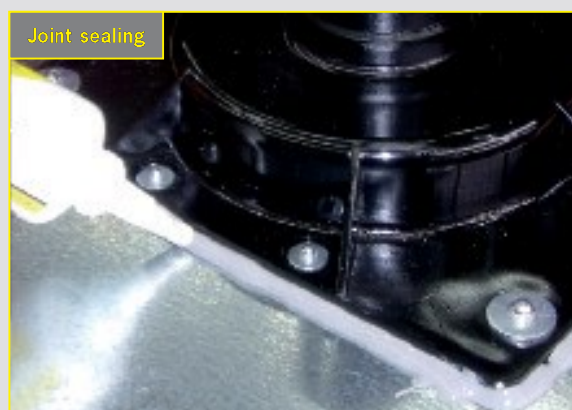
Properties

Please seek for the individual advice of our technicians!

Product	Colour	Temperature range (°C)	Density (g/cm³)	Viscosity (Pas)	duroplastic	Packaging			
						tin	brush-in-cap can	cartridge	tube
epple 22	red transparent	-30 to +250	0,93	9		—	—		—
epple 28	blue	-30 to +150	1,10	28		—	—		
epple 28/thix	blue	-30 to +150	1,09	100				—	
epple 30	grey	-30 to +200	1,39	140				—	
epple 31	grey	-20 to +200	2,34	250		—			
epple 32	black	-50 to +110	1,06	65				—	
epple 33	grey	-30 to +320	1,06	20		—			—
epple 35	dark-blue	-20 to +800	1,94	25		—			
epple 37/Dose	grey	-30 to +400	1,38	10		—			
epple 37/Kart.	grey	-30 to +400	1,51	50				—	
epple 40	beige	-20 bis +180	1,23	6		—			
epple 41	grey	-20 to +180	1,35	400				—	
epple 45 ●	grey	-30 to +180	1,40	60		—		—	
epple 46 ●	grey, white	-10 to +180	1,35	80		—		—	
epple 85 ●	beige, grey	-20 to +120	1,60	30				—	
stucarit 203 ●	yellow	-50 to +250	1,33	30	—	—			—
stucarit 309 ●	blue	-30 to +120	1,35	400	—	—		—	—
stucarit 318 ●	dark-grey	-30 to +150	1,22	600	—	—		—	
stucarit 410/2 ●	black	-30 to +180	1,15	160	—	—		—	
stucarit 412 ●	black	-30 to +180	1,15	110	—	—		—	
stucarit 500 ●	beige	-20 to +150	1,26	230	—	—		—	
epple 03131	reddish-white	-30 to +250	1,01	240				—	
epple 03213 ●	light-grey	-30 to +150	1,15	700		—		—	
epple HT	olive green	-30 to +250	1,13	pasty		—			
epple SIT D	reddish	-25 to +80	0,97	16		—			

- solvent-free

The transition from sealants to adhesives is literally smooth. Just as adhesives, also sealants are used when the leakage of gases or liquids between two abutting spaces shall be avoided. When waterproofing joints, seams, surfaces and gaps, the sealant forms a bridge between the surfaces out of equal or different materials. This works thanks to the surface adhesion to the workpiece and the cohesion within the sealing compound.



Organisation chart for sealing compounds

epple-sealing compounds

Surface sealing		Joint sealing	Sealing of notches
film-forming/curing	duroplastic	film-forming/curing	film-forming/curing
epple 22	stucarit 203 •	epple 33	epple 45
epple 28	stucarit 309 •	epple 40	epple 46
epple 03131	stucarit 318 •	epple 41	epple 85
epple 33	stucarit 410/2 •	epple 28	epple 41
epple SIT D	stucarit 412 •	epple 32	epple 37
epple 28/thix	stucarit 500 •	epple 45 •	epple 03131
epple 30	epple 03213 •	epple 46 •	epple HT
epple 40		epple 85 •	epple 28/thix
epple 41		epple 22	epple 28
epple 32		epple 03131	epple 32
			epple 33

Degree of adequacy:

- very good
- suboptimal
- solvent-free

The sealing compounds mentioned in this brochure are an outline of the standards from our wide product portfolio. We furthermore offer a varied range of sealants, not itemised herein because of their copiousness. Besides these standard products, special sealing compounds can be developed and adjusted to your very individual convenience. Please contact one of our technicians. He will recommend the appropriate product to you.

For further information please see: www.epple-chemie.de or ask for the technical data sheet of the relative product.

Testing of sealing compounds:

Our possibilities:

- Determination of the viscosity with the rotation viscosimeter acc. to DIN EN ISO 3219
- Determination of the drain-off characteristics
- Determination of the drying loss
- Determination of the exhausting characteristics
- Determination of the density
- Determination of the grain size
- Determination of the gap bridging properties
- Determination of the seal effect
- Determination of the pH-value
- Resistances against water, aqueous saline solution, inorganic acids, organic acids, alcohol, oils, solvents etc.
- Corroding behaviour with polystyrene
- Determination of the drain-off characteristics – crawler
- Determination of the drain-off characteristics – coil
- Determination of the drain-off characteristics – surface

Further informationen

epple-adhesives. For the rapid, safe and resource-saving connection of different materials – in production, in the workshop and in building construction.

All-purpose adhesives don't exist, as every material is different. But epple nevertheless bonds everything: wood, glass, rubber, stone, metal and much more. All with all. Whether coarse or smooth, temperature sensitive or heat resistant. We connect entire material worlds. And because these material worlds are often as different as their requirements, we developed special adhesives for every kind of material and every possible bonding method. Many innovative adhesives, summarised in five product lines for you:

epple-classics: The adhesive classics, with and without solvents, one- or two component for nearly unlimited application possibilities.

epple bond: Cold-setting, fast polymerising one-component-adhesives for the safe instant bonding of metal and non-metal materials, but also porous substrates.

epple-loc: Likewise cold setting, fast polymerising for the safe, efficient and solvent free bonding of non porous materials, e. g. for the protection of screw connections against vibration, impact and shock.

epple-quick: Innovative one-component system. Adheres, grouts and seals thanks to its UV-technique within seconds.

epple-spezial: The special adhesive – for very exceptional requirements in industry and handcraft.

Besides these standard products, also customised adhesives are possible upon request. Just get in contact with one of our experts – because you've come to the right place when high-quality solutions for challenging duties are concerned!



epple-cast resins are reliable, stable and durable.

They protect your components against humidity, dust and other contaminations.

Cast resins are reaction resins which particularly protect electronic devices: against mechanical damage, environmental influences, dust and humidity. They furthermore increase the mechanical stability of the sensors, condensers or entire control units subject to bonding and they ameliorate the heat conduction of these components. The application possibilities of our cast resins are accordingly wide and versatile which increases the duties and demands on the products. From the processing via the curing to the properties of the later application area. Our cast resins are available as one- or multi component products, based either on epoxies or polyurethanes. They show their particular strengths best when dealing with the respective field and type of application.

It's your choice! Our basic and standard products already cover a multitude of exigencies. With even more specific requirements we will be glad to adjust our products to your very individual convenience.



waterproofing // bonding // grouting

Contacts:

Application Technology:

+49 (0) 70 32/97 71-95

anwendungstechnik@epple-chemie.de

Sales Department:

Offers: +49 (0) 70 32/97 71-21

leppla@epple-chemie.de

Orders: +49 (0) 70 32/97 71-25

+49 (0) 70 32/97 71-28

auftragsabwicklung@epple-chemie.de

Trader's stamp



E. Epple & Co. GmbH

Sealing compounds // Adhesives // Cast resins
Hertzstrasse 8
D-71083 Herrenberg

Tel +49 (0) 70 32/97 71-0
Fax +49 (0) 70 32/97 71-50
E-Mail info@epple-chemie.de
Web www.epple-chemie.de



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