



ProElast®  
InnoElast®  
RubberElast®  
Drive-in profiles

Product information



## B.T. innovation GmbH

Originally founded in 1991 as a regional wholesaler for specialist building materials, in recent years B.T. innovation GmbH has developed into a competent partner on the international scene. Our partners include customers and dealers throughout the world. B.T.'s modern corporate philosophy means it has a proven track record of continuous development, coupled with constant expansion of the product range.

With our strong practical bias, we have discovered many workable, application-oriented solutions. Our enviable record of certifications, tests, approvals, utility models and patents under the auspices of building regulations speaks for itself.

B.T. innovation GmbH focuses equally on advice, development, production and supplies for construction companies and prefabricated concrete parts manufacturers. Direct performance of all the services and products we offer guarantees you competent advice and state-of-the-art products from a single source.

In the field of prefabricated concrete parts technology, we offer our customers a wide product spectrum, as well as advice, planning and implementation of new plants or changes to existing plants for manufacturing prefabricated concrete parts. This ranges from magnet technology through to a wide range of reasonably priced spacers, and includes complete shuttering systems, connection technology and seals.

Our products also offer the construction industry real solutions to problems, which ensure simple, reliable and cost-effective construction processes. Without constant development work and endless amounts of product information, it would be impossible to achieve the current capabilities of concrete construction. Increasing demands on the functionality, design and quality of building projects in concrete continually require new solutions, materials and techniques. Time and again new and further developments have meant we are able to provide impressive unique products for use on the building site.

We are pleased that you have looked at our catalogue and learned about our product innovations, and we hope that you will also soon join the ranks of our satisfied partners.

Our technicians provide on-site support at prefabricated parts plants, building companies and dealerships, and contribute to quick solutions to problems by giving competent advice. Technical and commercial staff ensure quick and reliable order processing.

B.T. innovation GmbH is certified to DIN ISO 9001.

**Felix von Limburg**  
Geschäftsführer  
B.T. innovation GmbH

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# ProElast® System

*New generation sealing system*

## What is ProElast® system?

ProElast® System is a successful, economic and easy-to-use system for outer sealing of working joints and dummy joint sections in watertight concrete structures.

It consists of an especially resistant EPDM foil (ProElast®) as a sealing sheet and of an extremely adherent InnoElast® type 1 surface glue that ensures tight, durable and strong bonding.

## Why to use ProElast® system?

ProElast® sealing system is easy to use. It only consists of 2 components - a special EPDM foil and a high-efficient glue (InnoElast® type 1). The ProElast® system features high impermeability to water, as well as weather- and UV resistance. Its typical application area includes working joints and dummy joints in watertight concrete. Moreover, you can also durably seal joints, cracks and gaps in roofs, shafts and tanks with this system. Its application area is almost unlimited.

ProElast® system is a good solution for all cases in which you need to stop water. Combined with a special EPDM foil and an innovative InnoElast® type 1 glue, the ProElast® system was granted a General Test Certificate issued by the German construction supervision body. The certificate permits using of the system at water pressures up to 2 bar (20 m water column).

Good working properties of the glue enlarge its area application considerably. You can use it even at -3°C temperature of building components and/or at humid bases, as well.

The versatile InnoElast® glue also acts as a sealing compound and means double safety of your sealing.

Besides working joints and dummy joint sections, this officially tested efficient system of a large foil width can also be used for rehabilitation work, for expansion- or contraction joints and for many other applications, too.

There is no need of mechanical fastening (parallel attachments or flanges). So you can also seal joints of buildings and other joints in a completely new way.





### Advantages

- quick and easy working
- workable at  $-3^{\circ}\text{C}$  temperature
- usable on a humid base
- high initial adhesion capacity
- usually does not require any primer
- very high adhesion capacity on concrete, steel, glass, wood, bitumen and diverse plastics
- tested water pressure resistance up to 20 m water column acc. to the General Technical Test Certificate
- high resistance against chemicals and microorganisms
- solvent-free
- weather and UV resistant
- well compatible with bitumen sealing materials
- diverse rehabilitation applications are possible, as well
- can be combined with other Elast products

*\*General Test Certificate of the German construction supervision body*



# Assembly Instructions

## ProElast® System

1



Make sure that the base is firm and free of grease, oil and dust.

Apply the InnoElast® glue and distribute it on the surface with a serrated trowel (B3) Layer thickness is 1.5 mm.

2



Lay the sealing foil (ProElast®1.0 >300mm) in the middle of the joint surface. Apply it with a roller so that the layer thickness becomes about 1 mm.

Make sure that no air bubbles remain under the foil.

Glue the butts by overlapping them at 100mm.

3



Seal the free edges with InnoElast® type 1.

Before grouting the foundation pit, observe the curing time stated in the Data Sheet!

Protect the ProElast® foil from external mechanic damage!

# Examples of Use

with ProElast®



1



2

ProElast® for roof sealing

ProElast® for facade sealing



3

ProElast® for „black-white basins“

# InnoElast®

## *New Generation of Sealing Technology*

### What is InnoElast®?

InnoElast® is a successful one-component polymer-modified sealing material of the new generation. It is used for sealing construction joints, expansion joints, joints in industrial floors, sconcheons, bushing, roofing, etc.

### Why to use InnoElast®?

InnoElast® is an extremely low-shrink, tixotrop and weather-resistant sealing material of an enormous adhesion capacity.

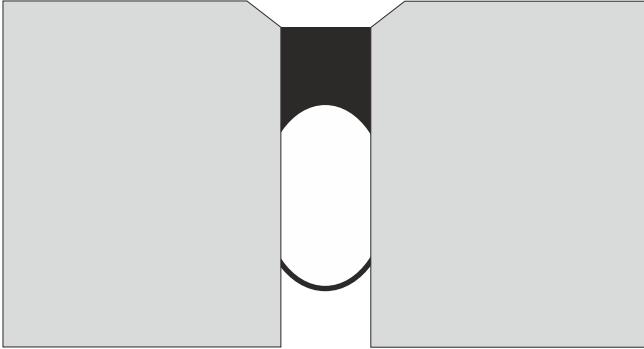
InnoElast® is environmental friendly and meets many environmental standards for sealing materials. It can be used both in interior and exterior area.

On each construction site there is a demand on sealing materials for different joints and for sealing of pipe penetrations, window reveals, door jambs and roofing joints. There are diverse sealing materials available at the market, however, they either consist of 2 components or do not meet the requirements of the site.

InnoElast® is the optimal solution for all your tasks. It excels in its versatility and wide application area, working properties and long lifecycle. Its application area is almost unlimited. InnoElast® glues concrete, steel, aluminum, tiles, clinker, marble, glass, wood, PVC, acrylic glass and suitable for works on windows, doors and roofs







Shrinkage rates of traditional sealing materials vary from 2 to 10% after hardening. That means, there are strains in the sealing material even without deformations in the joint, and any joint deformation can cause tearing or flank wrecking.

*No shrinkage, almost shrink-free sealing*



### Advantages

- easy working
- durable sealing, as almost no shrinkage
- 1-component
- very high adhesion capacity, if fresh, too
- reaction with air humidity results in a soft, elastic and rubber-like seal (1-component)
- can be worked on wet bases, too
- very good gunnability (even at  $-3^{\circ}\text{C}$  temperature)
- usually does not require any primer (only one working step)
- high resistance against chemicals and microorganisms
- solvent-free
- weather and UV resistant
- no softeners, isocyanates and silicones needed
- can be combined with other Elast products



# Assembly Instructions

## *InnoElast® type 1 and InnoElast® type 2 - steady sealing materials*

### InnoElast® Typ 1

is a one-component paste-like polymer sealing material of 25% maximum motion rate and a working temperature at already -3°C (building component temperature). Conform to DIN 18540-F standard.

### InnoElast® Typ 2

is a one-component paste-like polymer sealing material of 55 hardness (Shore A type), with high mechanical stability and extreme adhesion capacity

Make sure that the base is firm and free of grease, oil and dust.

The base can be wet . Usually no primer is required.

Apply the backfill material (avoids 3-flank adhesion, saves material).

Joints shall be wider than >10 mm, however, maximum 5 cm wide.



InnoElast® is available in tubular 600 ml bags. It is to be evenly applied into the joint with a tubular-bag gun.

Take off the material residues to make the joint smooth and let it harden.

The curing time depends on the temperature and humidity.

Attention! In case of using release agent, take care that they are not waterbased.



# Technical Data Sheet

	InnoElast® Typ 1	InnoElast® Typ 2
Property	Description	Description
Consistency	paste-like	paste-like
Colour	grey	black
smell	no smell	no smell
Specific density	1,5 g/cm <sup>3</sup>	1,5g/cm <sup>3</sup>
Hardness*	about 25 (Shore A type)	ca. 55 (Shore A Typ)
Max. deformation absorption	25 %	10 %
Skin formation time **	about 2 - 3 h	about 15 minutes
Full hardening**	about 2 mm/24 h	about 3 mm/24 h
Tensile strength	about 0.4 N/mm <sup>2</sup> at 100% strain	2.5 N/mm <sup>2</sup> (2mm film)
Application temperature	from -3°C to +40°C	From -3°C to +40°C
Temperature resistance	from -40°C to +80°C up to +220°C for a short time	from -40°C to +100°C up to +220°C for a short time
Storage	Storable up to 12 months in original package, in a dry and cool place, no special measures required	Storable up to 12 months in original package, in a dry and cool place, no special measures required
Recommendations for safe working	no special measures required	no special measures required
Fire and explosion protection	no special requirements, not explosive	no special requirements, not explosive
Storage class	VCI 3B (flammable materials)	VCI 3B (flammable materials)
Self-ignition	The product is not self-igniting	The product is not self-igniting
Solubility in, miscibility with water	insoluble	insoluble
Dyn. viscosity	about 10000 mPas	about 15000 mPas
Transportation requirements	No special transportation regulations for this product	No special transportation regulations for this product

\*measured after 4 weeks of hardening at 23°C / 50 % relative air    \*\*measured at 23°C / 50 % relative air humidity

## Product properties compared

	InnoElast Typ 1	InnoElast Typ 2	S-PUR sealants	PU sealants	Silicones
Gunnability at low temperatures	++	++	++	+	++
Environmental friendliness	++	++	+	-	++
Quick hardening	++	++	++	-	++
Storage stability	++	++	+	+	++
Adhesion capacity on different bases	++	++	++	-	+
Overcoatability with dispersible paints	++	++	++	++	--
Gas-bubble-free	++	++	++	-	++
UV stability	++	+	++	-	++

++ = most suitable / + = suitable only to a limited extent / - = not well suitable / -- = usually inapplicable

# Examples of Use

*InnoElast® Applications*



1



2

InnoElast® as joint finishing

InnoElast® for joint repairing



3

Pre-cast components' joint closing

# Examples of Use

*InnoElast® Applications*



InnoElast® as "liquid foil"



Firm gluing of pre-cast components



InnoElast® as a glue for EPDM films



InnoElast® as sealing for floor joints



Joint seal impermeable to water under pressure, combined with RubberElast®

# RubberElast®

## Sealing of pre-cast concrete components to marvel at

### What is RubberElast®?

RubberElast® sealing strip is worldwide successfully used in pre-cast component joints. On sites it is simply glued by pressing to the faying surface of a concrete component, and the joint of the concrete components becomes waterproof.

### Why to use RubberElast®?

RubberElast® features an extremely high impermeability to water and gases, as well as an excellent resistance against atmospheric influence and mechanical wear.

RubberElast® even remains elastic at low temperatures. This sealing strip features an excellent adhesion not only to concrete, but also this sealing strip to metals, glass and other materials.

### Sealing of pre-cast concrete components:

Industrially manufactured pre-cast components are taking larger and larger market share, as working with concrete on site is getting more expensive, and the construction work progress can be significantly accelerated. However, it has been still expensive and complicated to seal joints of the components properly. All solutions had their sticking points. In shaft production, there were only pre-fabricated sealing rings, however only available for standard-size round shaft components. Another solution was a classic grouting, however there is an extremely high risk of tearing, even in the case of small joint deformation. Hydrophilic gaskets require additional covering by a minimum layer of concrete. Bitumen-based outer sealing usually provides no sufficient resistance against the water under pressure.

RubberElast® is a material that can be easily and quickly applied with almost no dependence on the temperature. The material becomes watertight immediately after application, as it is firmly glued to the concrete components by pressing. The material remains tixotrop. Its resistance against aggressive media makes RubberElast® suitable for sewage. Its safety is guaranteed by the Test Certificate by the Materials Testing Institute in Braunschweig, Germany.





### Advantages

- simplest way of application
- extremely high impermeability to water and gas
- very good adhesion capacity (self-gluing)
- quick working, no tools needed
- becomes watertight immediately after application
- flexible at low temperatures, too
- resistant against acids, alkalis, salts and slurry
- General Technical Test Certificate issued by the German construction supervision body
- weather-resistant
- can be combined with other Elast products



Many different cross-section sizes of sealing strips are available for diverse applications

Size	Package unit
11 x 11 mm	6,6 m/reel
17 x 17 mm	4,5 m/reel
25 x 19 mm	4,4 m/reel
32 x 25 mm	4,4 m/reel
<b>38 x 32 mm</b>	<b>3,2 m/reel with GtTC</b>
48 x 42 mm	2,25m/reel

For help in selecting the right size, do not hesitate to contact us.

# Assembly Instructions

## *RubberElast® - a self-gluing strip*

1. To achieve good gluing of RubberElast, make sure that the concrete base is dry and clean, and there is no cement paste, dust, separating agents, curing compounds or other substances diminishing adhesion.

2. Place RubberElast together with its protection paper in the middle of the butt surface and firmly press it at its whole length to avoid displacing of the seal during applying the next component.



3. To connect two ends of the strip, cut them at 30°- 45° angle so that they are jointed one above another before being pressed onto the component.



4. When you are going to place the next component, remove the protection tape and check whether RubberElast® sealing strip is firmly attached and not misaligned.

5. To achieve the best possible sealing acc. to GTC, please observe that the material is compressed to 20% (joint width = 5.6 mm) of its original height before stressing of the joint.





# Technical Data Sheet

## Technical Data

RubberElast® is a product approved by the Material Testing Institute in Braunschweig what is documented in General Test Certificate No. P-5147/5783 MPA-BS. The RubberElast® seal is applied for sealing joints of pre-cast building components made of watertight concrete against water (pressing and non-pressing) and against ground humidity as defined in DIN 18195 Part 4-6, and in Construction Rules List A, Part 2, No. 1.4 up to measuring water column up to 5 m above the joint at 80% compressive strain of RubberElast® gasket of 38x32 mm.

## Stability

No changes could be detected in the shape, weight and consistency of RubberElast® seal after immersing it into saturated Ca(OH)<sub>2</sub> solution (ph 12), or concrete-aggressive liquid with SO<sub>4</sub><sup>2-</sup> (ph 4.5), table salt solution, slurry, or during storing at 60°C.

## Adhesive strength

Adhesive and bonding strength of the RubberElast® seal was tested on different test specimens. In all cases, the tensile strength significantly exceeded 0.03 N/mm<sup>2</sup>. Collapses were always caused by cohesive breaks in the seal.

The seal kept its adhesive properties when being exposed to the above-mentioned aggressive media, as well.

## Pressure resistance

The pressure resistance was tested in many diverse conditions. It is durably enough to withstand water pressure. However RubberElast® cannot be used as a load transfer mean.

## Miscellaneous

RubberElast® is regularly tested on its constant quality by means of the thermo-gravimetric analysis and infrared spectrum.

## Product properties compared

Acid- and alkali-resistant	Watertight immediately after application	Tixotrop	Approved by the German Construction Supervision Authority	Can be applied at low temperatures
Well foam	--	-	--	--
Swelling mortar	+	-	+	--
Bitumen strip	+	++	-	-
RubberElast®	++	++	++	++

++ = most suitable / + = suitable only to a limited extent / - = not well suitable / -- = usually inapplicable

# Examples of Use

RubberElast® Applications



Sealing of shaft joints



Watertight basement made of massive pre-cast components



Sealing between bottom slab components



Use in small clarification plants



Watertight immediately after application

# Examples of Use

RubberElast® Applications



6

Use in buttresses



7

Connection to the existing building



8

Final joint thickness about 5mm



9

Use in culverts

# Push-in Gaskets

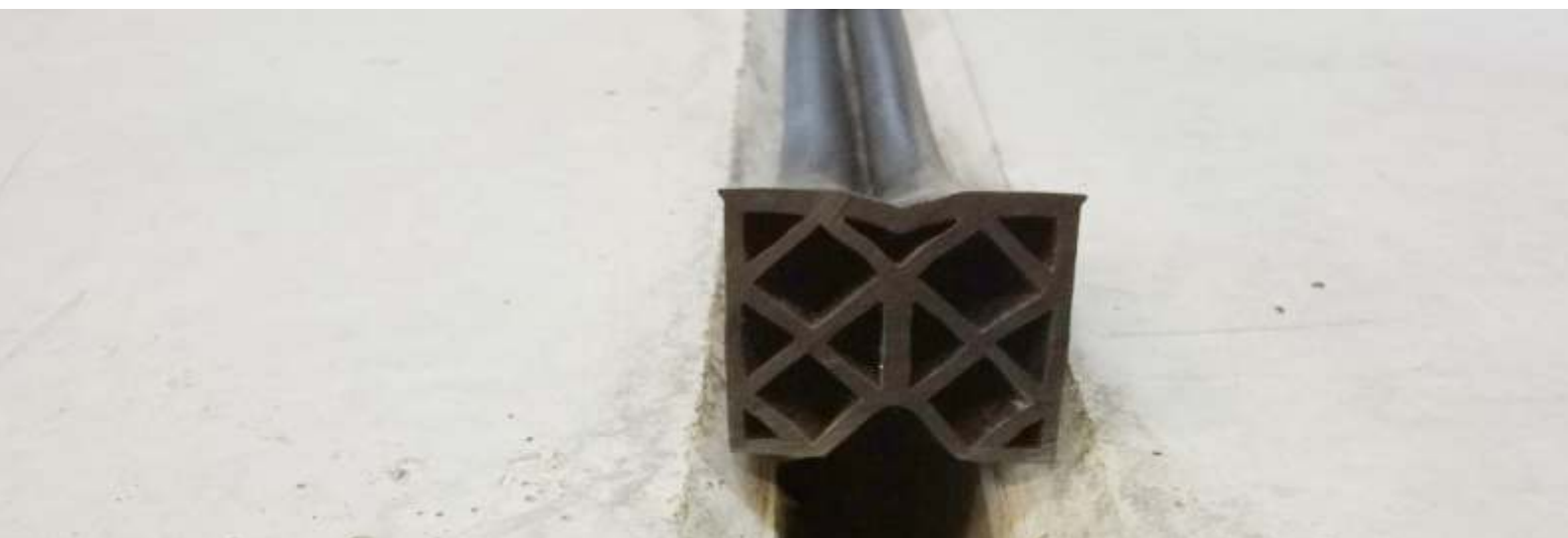
*for re-sealing of joints*

For many reasons, it may be necessary to re-seal, or to repair open joints. Standards on tightness of building structures become more and more strict and often require toughening-up or additional securing of the existing joints, too. Sometimes tixotrop sealing materials alone cannot solve the problem. In such cases, diverse push-in gaskets selected acc. to the joint type can be helpful.

Using these gaskets allows joints to be sealed from the dry side, even if the water has penetrated. So you can avoid complicated and expensive work that was traditionally necessary in such cases. Simple handling of the products guarantees that the contractor and builder can use them without special tools.

## Advantages

- re-sealing of joints afterwards
- solutions for diverse types of joints
- simple working
- work does not depend on the weather
- directly usable in the case of water penetration, as well
- weather- and UV-resistant
- high chemical can be combined with InnoElast® sealing system
- can be combined with InnoElast® sealing system
- no softeners, isocyanates and silicones needed
- can be combined with other Elast products

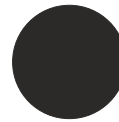




## Push-in gaskets for non-contracting joints

Push-in gaskets are compression gaskets based on elastomer. There are two types available:

SBR solid rubber for sealing against pressure water



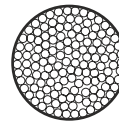
Diameter / Shore A Hardness  
 10 mm/40  
 15 mm/40  
 20 mm/40  
 30 mm/40  
 40 mm/40

## Application Range

Sealing of non-contracting joints in new buildings and during rehabilitation of existing buildings.



EPDM for joint reparation in outer areas



Diameter / Shore A Hardness  
 16 mm/25  
 25 mm/25  
 30 mm/25  
 20 mm/40  
 25 mm/40  
 30 mm/40  
 40 mm/40  
 45 mm/40  
 60 mm/40



## Area of application

Sealing of contraction joints

## Advantages

Chemical resistance against de-icing salts, fuels, lubricants, UV and ozone.

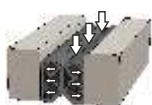
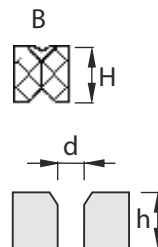


## Installation principle

When being pre-stressed, the gasket absorbs longitudinal, transversal and vertical loads of the building structure.

A special inner shape ensures geometrical stability in all positions of the gasket. For this purpose, it is glued to the joint flanks with InnoElast® type I glue.

Width B	Width H	Nominal joint width d	Required joint depth h	Joint expansion
36 mm	35 mm	21 mm	45 mm	18 - 30 mm
46 mm	37 mm	25 mm	50 mm	20 - 40 mm
56 mm	55 mm	36 mm	65 mm	27 - 49 mm
68 mm	70 mm	45 mm	85 mm	30 - 60 mm
80 mm	87 mm	55 mm	100 mm	35 - 70 mm



Vertical load absorption



Vertical load absorption



Horizontal load absorption (parallel to the joint)



Angular load absorption

B.T. innovation GmbH . Sudenburger Wuhne 60 . D-39116 Magdeburg . Germany

Email: info@bt-innovation.de . Website: www.bt-innovation.de

Phone: +49 391 7352 0 . Fax: +49 391 7352 52



Maincatalog



Syflex®



BT-Spannschloss®



Magnets / Shuttering

Your contact for site:



D2B Byggprodukter  
Byvägen 55  
438 36 Landvetter  
Schweden

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