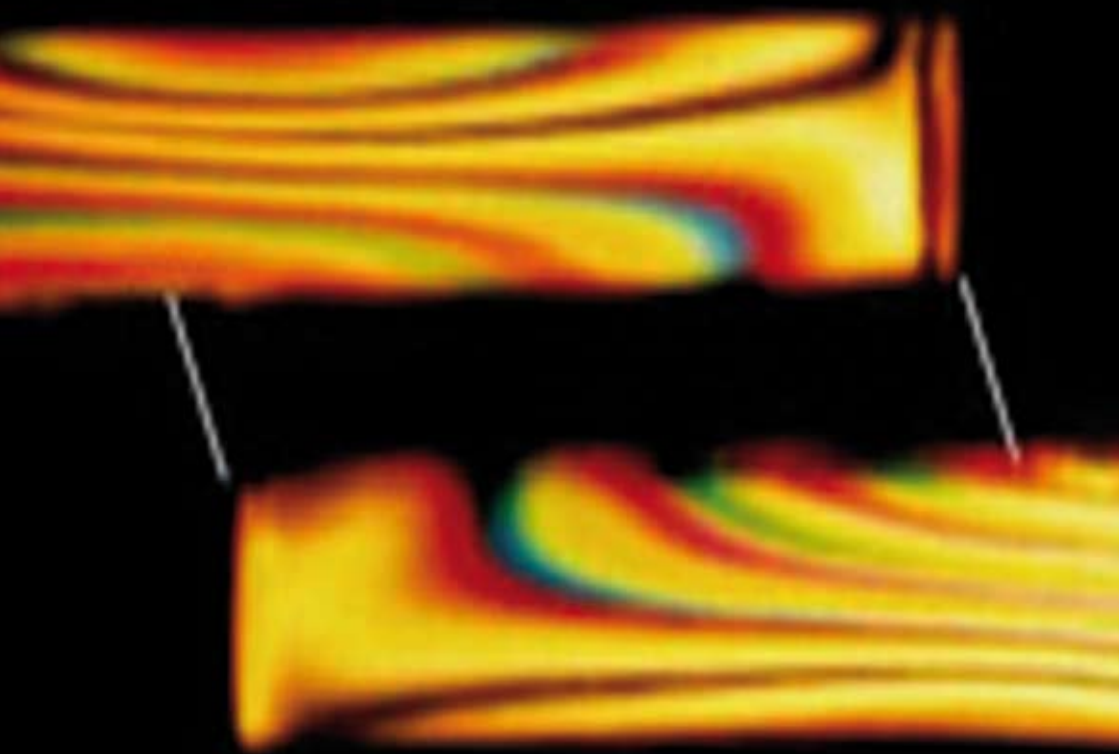


# How to choose the perfect adhesive





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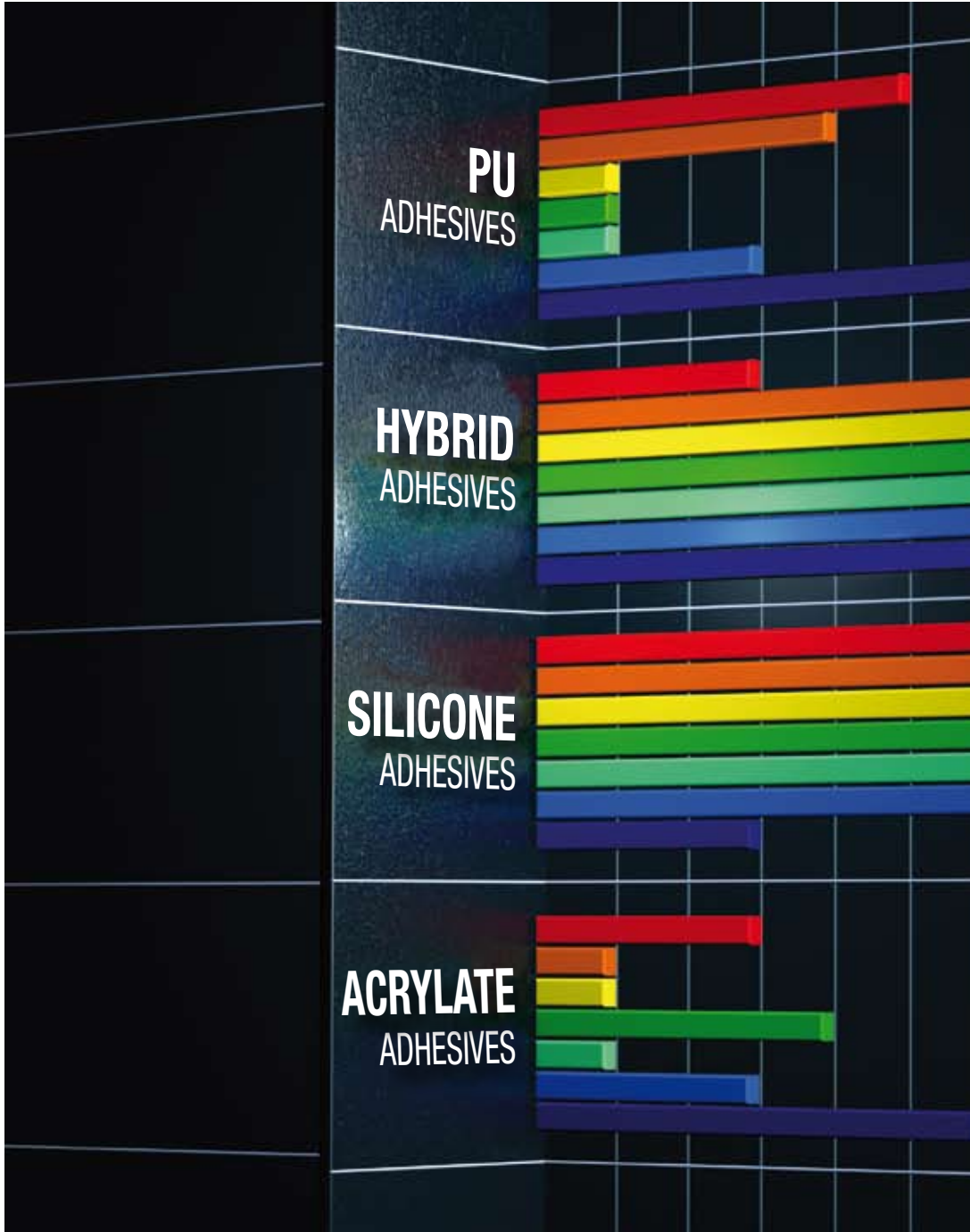
## **Preface**

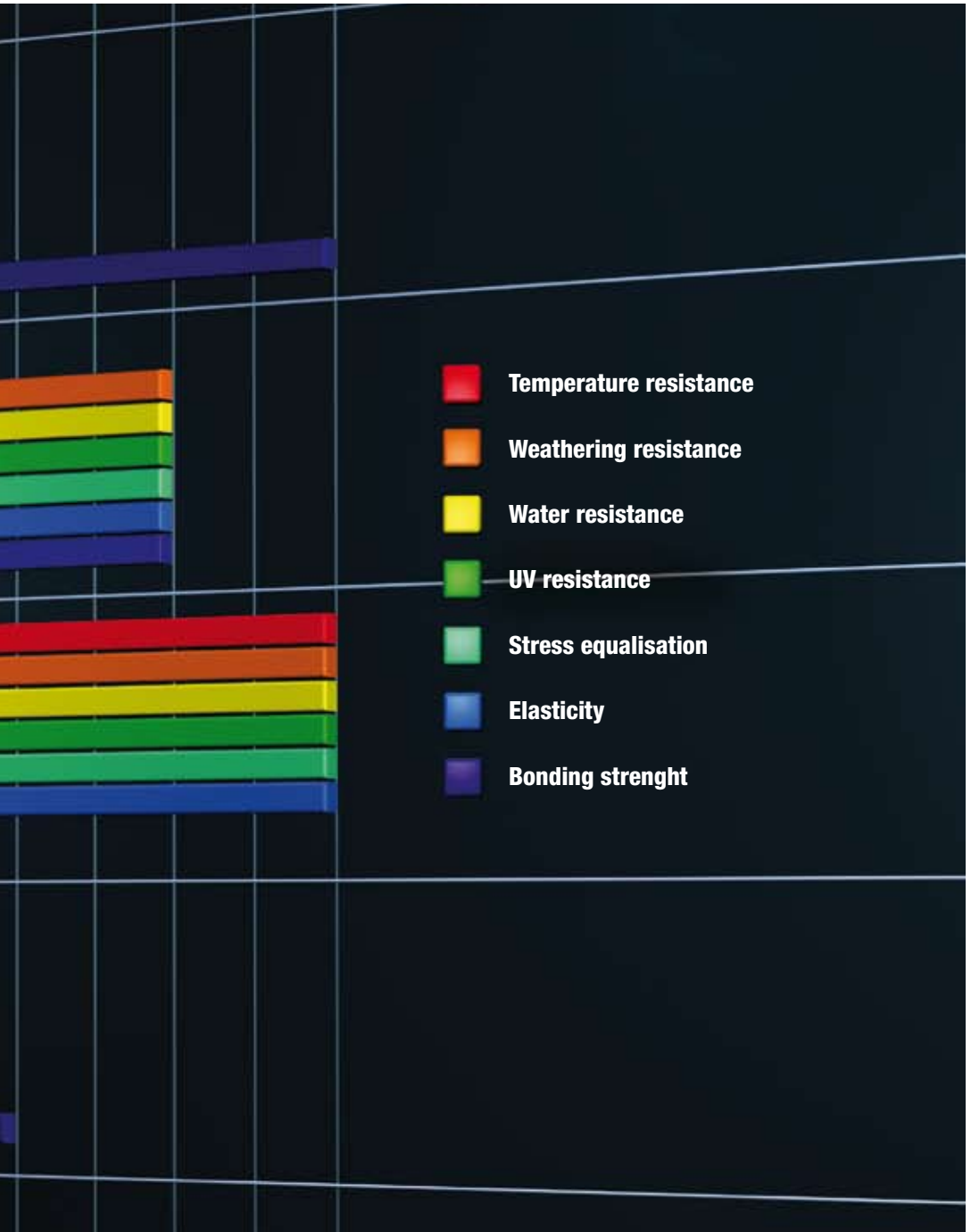
### **Welcome to the world of adhesives**

In industry and at building sites today adhesives assume a very wide variety of assembly and mounting functions. However, unlike the famous all-purpose glues, adhesives for professional use have to be absolute specialists to be able to fulfil their functions.

Anyone wishing to select the exactly right adhesive for an application not only has to know the different performance profiles of the adhesives, he must also know how they act chemically and physically in specific environments and situations.

This guide is intended to help you initially get your bearings in the world of adhesives and support you in finding the OTTO product which optimally fits your application. And last, but not least, this guide makes it easier for you to understand the recommendations given by our applications advisors in favour of a specific product, even though this cannot be a substitute for individual consulting.





**Flexible, tough and robust.** **Silicone adhesives** are characterised by great

flexibility on the one hand and, on the other, by insusceptibility to water, sunlight, temperatures and temperature fluctuations, to chemical impact and aging. They are therefore ideal for applications in the kind of environments where other adhesives fail: on outdoor façades, in sanitary areas and even underwater. Their high capacity for resilience also make them the best adhesive to choose if movements may have an impact on the bonds. Here their compensatory properties come into play and the bond is not damaged even by thrust, shearing and compressive forces and after enduring the applied load returns to its original position. Ideal for bonding in glass and window construction, for example, where the bonding partners expand to different degrees owing to temperature fluctuations. However, compared to other adhesives, their adhesive strength is rather low.



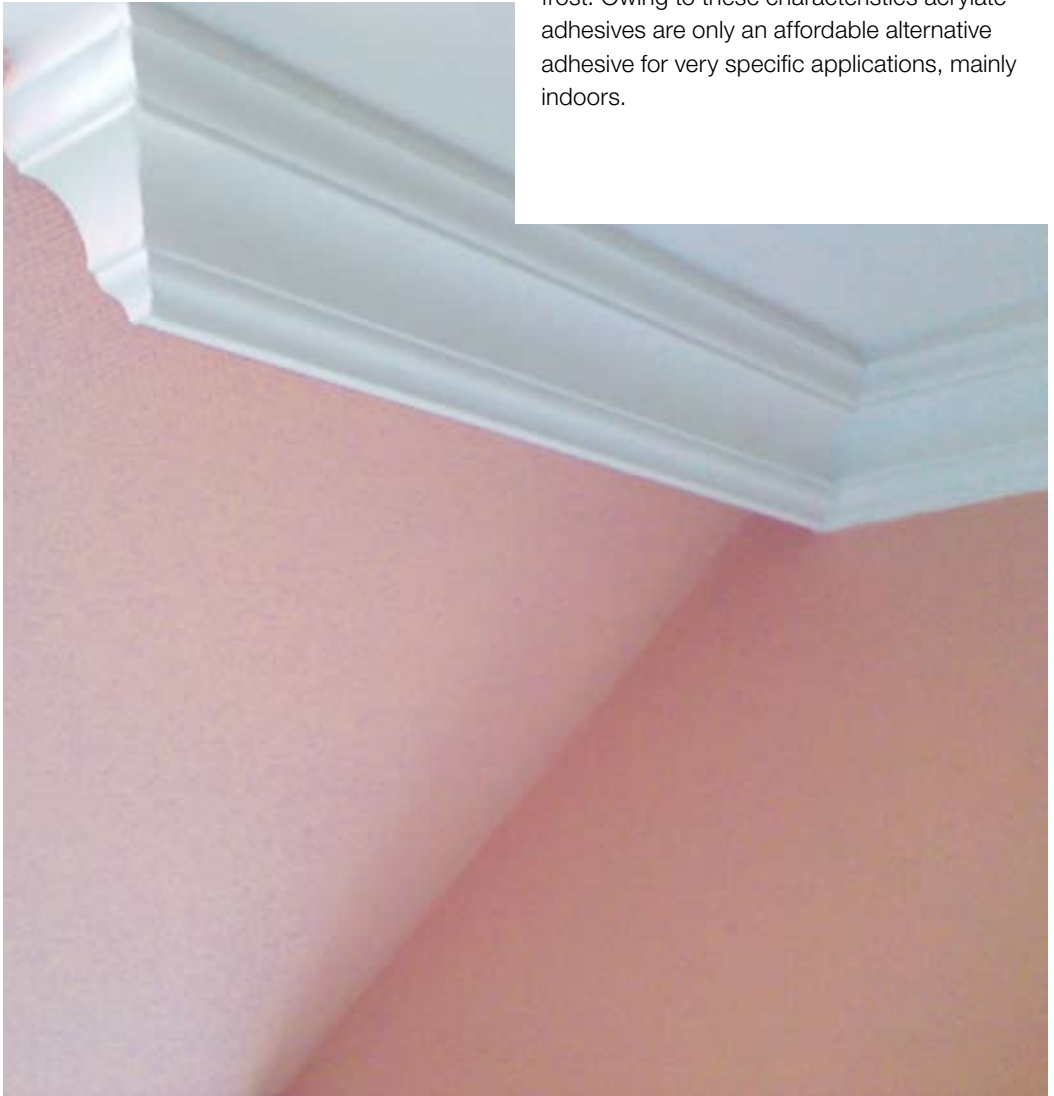
In areas where silicone is not to be used, **hybrid adhesives** are considered an elastic alternative with similar tension-compensating characteristics – even if overall they have a lower performance profile and are less able to withstand high temperatures than silicone adhesives.

Hybrid adhesives are also very resistant to notches and to continued tearing. Its broad spectrum of adhesion even in the presence of water and the good UV and weather resistance makes them suitable for indoor and outdoor bonds. Furthermore, they react primarily neutrally to paints.

### **Between two worlds.**



**The affordable alternative.** **Dispersion-based acrylate adhesives** are characterised by good bonding strength and paintability. However, they prove less robust under such loads as high temperatures. Besides, they always require an absorbent bond partner, which limits the range of applications. Since acrylate adhesives are based on water if they are not fully cured, they are susceptible to frost. Owing to these characteristics acrylate adhesives are only an affordable alternative adhesive for very specific applications, mainly indoors.





Structural **PU adhesives** are the type if adhesives professionals choose when they require a non-positive bond with maximum bonding strength. Single-component PU adhesives foam up a little when applied, thus filling small hollow spaces in uneven or rough surfaces and thus offer optimal conditions for adhesion. After curing they can be ground and painted over without any difficulty. Due to its low UV and temperature resistance and the limited weather resistance they should only be used for indoor applications and for outdoor applications which are protected from the weather.

In view of the fact that PU adhesives contain a small amount of diphenyl methane diisocyanate (MDI), storage, trading, processing and disposal demand that this group of adhesives is handled responsibly.

### **Uncompromising adhesion.**



**Safety first.** The methylenediphenyldiisocyanate (MDI) contained in PU products may – in the case of repeated skin contact or in the form of an aerosol – if the concentrated vapours are inhaled, be a health hazard. Aerosols arise especially when spraying on, for example, PU paints or if the PU products are heated during processing. However, if OTTO adhesives are used correctly, owing to the low vapour pressure virtually no aerosols occur.

The statutory classification “Suspected to have a carcinogenic effect” is based entirely on experiments on animals at high loads of MDI in aerosol form. The risks to human beings was determined on the basis of epidemiological investigations in a scientific study (can be read on the homepage of the Federal Institute for Occupational Safety and Health in Dortmund – [www.baua.de](http://www.baua.de). Here the authorities come to the following conclusion: “The extensive epidemiological data available have not established any conclusive evidence that MDI aerosol has a carcinogenic effect on humans.”

In order to nevertheless point out the theoretically possible risk, the legislators of the European Union have decided on additional safety measures. This affects primarily sales to private persons, in order to ensure that the products containing PU are handled correctly.



# European Union



General

Sales to private persons

As of 01. 12. 2010  
At an MDI share > 1 %

Additional hazardous substance  
markings as “R 40” and “R 48/20”

#### ADAPTATION

- Packaging labelling
- Safety data sheets
- Hazard assessment
- Product accreditations

As of 27. 12. 2010  
At an MDI share > 0.1 %

①  
Additional labelling on packaging

②  
Obligation to provide  
protective gloves

In addition to the EU regulations in individual states additional restrictions may apply to putting PU products on the market. They must be adhered to.

**Alternatives rather than compromises.**

OTTO regards itself as a manufacturer of products with which professional do not have to make any compromises when it comes to quality. For this reason OTTO offers many highly specialised adhesives with different characteristics meanwhile based on five adhesive systems. They are used in applications ranging from fully automated processing in industrial operations as well as easy applications at building sites.



New requirements, such as the present statutory categorisation of PU adhesives, which are considered indispensable for many fields, and which OTTO regards as a challenge.

Besides providing information for the trade and processors, we encounter it with innovative new developments. For example with the PU adhesive, OTTOCOLL® UniMax which remains below all statutory limits and to which the Chemikalien-Verbotsverordnung (ordinance for the prohibition of certain chemicals) does not apply.



### **Advice and training for all aspects of adhesives.**

No matter whether you are a tradesman, a technical purchaser or a development engineer: OTTO's Applications Consultancy will support you in all matters concerning adhesives with its knowledge and experience gained from a very broad range of industries and applications and our own commitment ensuing from research projects. The OTTO applications specialists are competent partners for you to discuss topics ranging from the integration of our products into the production process to questions of warranty or standardisation. This service package is rounded off by our own training courses for processors from the trade sector at the OTTO training centre or at your location. So just contact us if you still have questions about the different aspects of adhesives.

### **Assistance needed for making a selection.**

From theory to practice.

Simply select the OTTO adhesive which best meets your personal requirements. We provide you with precise descriptions, order numbers, container sizes and prices so that you have exactly what you need.

And if you still have specific questions, don't hesitate to contact us or your OTTO agent. We look forward to hearing from you!

SYSTEM  
PRODUCT CHARACTERISTIC

**PU adhesives**  
with R40-labelling

**PU adhesives**  
without R40-labelling

Tension compensation

P83  
P270



Pourable

P84  
P410



Frictional

P85  
P86  
Rapid



Fast curing even in thick layers

P520



Please take note of the technical data sheet.



POSSIBLE ALTE

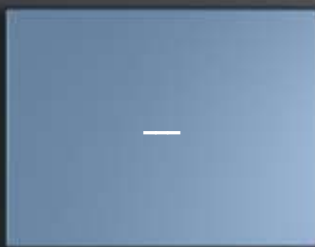
**Hybrid adhesives**



**Silicone adhesives**



**Acrylate adhesives**



A PRODUCT SYSTEM



ALTERNATIVES AMONG THE SYSTEMS



# OTTO COLL® TopFix



## The ultrafast fixing adhesive



IVD instruction sheet  
no. 30

### Characteristics:

- 1-component acrylic mounting adhesive
- Solvent-free
- Low odour
- Extremely high initial adhesion and high final strength
- Store and transport frost-free

### Fields of application:

- Bonding of corrosion-resistant metals, e.g. aluminium, stainless steel, anodized aluminium
- Bonding of skirt boards made of wood & PVC
- Bonding of wood and derived wood products, e.g. panels, decorative strips and decorative profiles
- Bonding of stone, natural stone and ceramic
- Bonding of decorative and insulating boards, e.g. made of polystyrene
- Bonding of stucco and ceiling profiles
- Bonding of cable ducts made of PVC
- Bonding of mineral substrates, e.g. concrete
- Bonding of gypsum plasterboards

### Standards and tests:

- “Highly recommendable non-hazardous building product” according to building material list (TOXPROOF) of the TÜV Rheinland, Germany
- Suitable for applications according to IVD instruction sheet no. 30 (IVD = German industry association sealants)
- Conform to LEED® IEQ-credits 4.1 (Indoor Environmental Quality) adhesives and sealants
- Fulfills DGNB-characteristics 06 (DGNB e.V. = German Organisation for sustainable building)
- French VOC-emission class A+
- Certified according to GOS



Decorative strips



Wood strips on tiles



Skirting boards



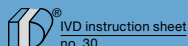
Junction profiles



## OTTOCOLL® A 770



### The dispersion acrylic adhesive for OTTO Window Tapes



#### Characteristics:

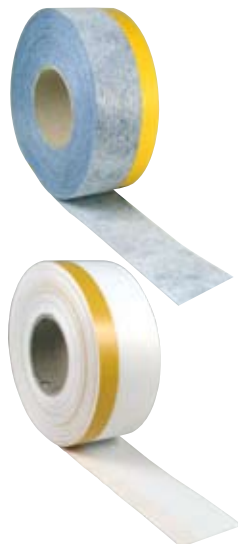
- 1-component acrylic adhesive
- High adhesive power
- Can be covered with plaster and painted
- Not immediately rainproof
- Can be stored and transported in temperatures as low as -10 °C for up to 48 hours

#### Fields of application:

- Bonding of OTTO Window Tapes BAB/A and BAB/I on masonry, concrete, cellular concrete etc.

#### Standards and tests:

- "Highly recommendable non-hazardous building product" according to building material list (TOXPROOF) of the TÜV Rheinland, Germany
- Recommended relating to medico-environmental aspects by the German Committee for Housing Medicine and Building Hygiene, Berlin, Germany
- Suitable for applications according to IVD instruction sheet no. 30 (IVD = German industry association sealants)
- French VOC-emission class A+
- Certified according to GOS



Connection foil on masonry

## OTTOSEAL® M 365



### The hybrid adhesive and sealant



IVD instruction sheet  
no. 7+9-19-1+20+22+24+27+30

#### Characteristics:

1-component adhesive and sealant based on silane-terminated polymers (hybrid)

Compatible with coatings according to DIN 52452

Good weathering and ageing resistance

Very good adhesion on many types of materials such as plastics, metals, wood and derived timber products, concrete

Cures without bubble formation

Low odour

Free of isocyanates

Silicone-free

#### Fields of application:

For application in interior and exterior areas

External joints according to DIN 18540-F

Sealing of joints on façades, metal constructions

Sealing of joints on windows and doors made of wood, metal and plastic

Elastic bonding and mounting of various materials such as wood, derived wood products, glass, metals (e.g. aluminium, stainless steel, anodising aluminium, brass, copper), plastics (e.g. unplasticised PVC, plasticised PVC, fibrereinforced plastics etc.), mineral substrates (e.g. brick, tile, ceramic), fireproof building panels (gypsum board etc.)

For the bodywork and vehicle construction, waggon and container construction, metal construction and apparatus engineering, ship building

#### Standards and tests:

According to the requirements of ISO 11600 F 25 LM

Suitable for applications according to IVD instruction sheet no. 7+9-19-1+20+22+24+27+29+30 (IVD = German industry association sealants)

French VOC-emission class A+

Certified according to GOS

Declaration in "baubook" Austria



Transport engineering



Bodywork seams



Caravan-/vehicle construction



### The water-resistant premium hybrid adhesive/sealant



IVD instruction sheet  
no. 19-1+21+24+30

#### Characteristics:

- 1-component adhesive and sealant based on silane-terminated polymers (hybrid)
- Excellent primerless adhesion on numerous substrates – even when exposed to water
- Very high mechanical strength, resistance to notches, tension and tearing
- For stress-compensating bonding and dynamic stresses
- Low odour
- Free of isocyanates
- Silicone-free
- Good weathering and ageing resistance
- Compatible with coatings according to DIN 52452

#### Fields of application:

- For application in interior and exterior areas
- Elastic bonding and mounting of various materials such as wood, derived wood products, glass, metals (e. g. aluminium, stainless steel, anodising aluminium, brass, copper), plastics (e. g. unplasticised PVC, plasticised PVC, fibre-reinforced plastics etc.), mineral substrates (e. g. brick, tile, ceramic), fireproof building panels (gypsum board etc.)
- For the bodywork and vehicle construction, waggon and container construction, metal construction and apparatus engineering, ship building
- Sealing of air condition and ventilation systems
- Different building applications such as staircase construction etc.
- Bonding of lacquered and enamelled glass
- Bonding of stone, natural stone and ceramic
- Bonding and sealing of OTTOFLEX Sealing Strip (in the overlapping area) and accessories such as Sealing Tape, Corner Tapes and Sealing Sleeves (according to the requirements of ETAG 022)

#### Standards and tests:

- Declaration of no objection when in contact with food (ISEGA Forschungs- und Untersuchungs-Gesellschaft mbH, Aschaffenburg, Germany)
- "Highly recommendable non-hazardous building product" according to building material list (TOXPROOF) of the TÜV Rheinland, Germany
- Suitable for applications according to IVD instruction sheet no. 19-1+21+24+30 (IVD = German industry association sealants)
- Tested on coated glass (2-comp. PU Direct Decklack 7-530 made by Selemix System) made by Glas Nagel – status 11/2006
- The instruction provided with regards to our adhesion and compatibility tests reflects the status at the time of testing. Changes to the coatings are possible but outside our sphere of influence. With regards to these we advise to contact the producers of glass/coatings concerned
- Conform to LEED® IEQ-credits 4.1 (Indoor Environmental Quality) adhesives and sealants
- Fulfills DGNB-characteristics 06 (DGNB e.V. = German Organisation for sustainable building)
- French VOC-emission class A+
- Certified according to GOS
- Declaration in "baubook" Austria

Please take note of the technical data sheet.



Sink installation



Marble steps on metal



Painted glass on wood

# M 501

## OTTO COLL® M 501



### The transparent premium hybrid-adhesive



IVD instruction sheet  
no. 19-1+24+30

#### Characteristics:

1-component sealant based on silane-terminated polymers (hybrid)

Excellent primerless adhesion on numerous substrates – even when exposed to water

Free of isocyanates

Silicone-free

Low odour

Good weathering and ageing resistance

Very high mechanical strength, resistance to notches, tension and tearing

Compatible with coatings according to DIN 52452

#### Fields of application:

Elastic bonding and mounting of various materials such as wood, derived wood products, glass, metals (e.g. aluminium, stainless steel, anodising aluminium, brass, copper), plastics (e.g. unplasticised PVC, plasticised PVC, fibrereinforced plastics etc.), mineral substrates (e.g. brick, tile, ceramic), fireproof building panels (gypsum board etc.)

For the bodywork and vehicle construction, waggon and container construction, metal construction and apparatus engineering, ship building

Bonding of stone, natural stone and ceramic

Different building applications such as staircase construction etc.

#### Standards and tests:

“Highly recommendable non-hazardous building product” according to building material list (TOXPROOF) of the TÜV Rheinland, Germany

Suitable for applications according to IVD instruction sheet no. 19-1+24+30 (IVD = German industry association sealants)

Conform to LEED® IEQ-credits 4.1 (Indoor Environmental Quality) adhesives and sealants

Fulfills DGNB-characteristics 06 (DGNB e.V. = German Organisation for sustainable building)

French VOC-emission class A+

Certified according to GOS



*Perspex and copper*



*Sink installation*

# M 510

## OTTOCOLL® M 510



### The hybrid adhesive with high bonding strength



IVD instruction sheet  
no. 30

#### Characteristics:

1-component sealant based on silane-terminated polymers (hybrid)

Stable

Extremely high adhesion strength

Good weathering and ageing resistance

For application in interior and exterior areas

Free of isocyanates

Silicone-free

Non-corrosive

Grindable and paintable after curing

No foaming

Low odour

#### Fields of application:

Firm bonding of wood and derived wood products, e.g. chipboards, plywood etc. and in the staircase renovation

Firm bonding of metals, e.g. aluminium, stainless steel, galvanised steel, copper

Bonding of stone, natural stone and ceramic

Bonding of insulating units, e.g. made of polystyrene, PVC, PU etc.

Bonding of plastics, e.g. unplasticized PVC, fibrereinforced plastics etc.

#### Standards and tests:

According to the requirements of DIN EN 14257 (WATT 91) to temperature-resistant bondings of wood and derived wood products

Suitable for applications according to IVD instruction sheet no. 30 (IVD = German industry association sealants)

French VOC-emission class A+

Certified according to GOS



Insulating boards



Tile



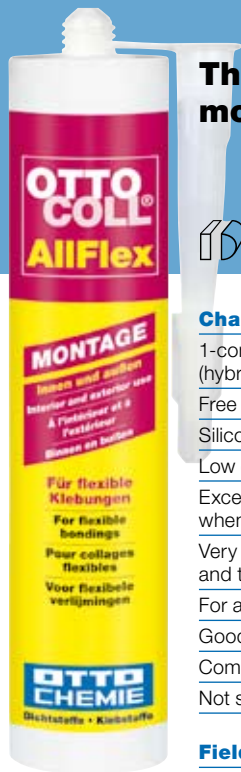
Metal/wood



Bonding natural stone

Please take note of the technical data sheet.

## OTTO COLL® AllFlex



### The ultra flexible mounting adhesive



IVD instruction sheet  
no. 30

#### Characteristics:

1-component sealant based on silane-terminated polymers (hybrid)

Free of isocyanates

Silicone-free

Low odour

Excellent primerless adhesion on numerous substrates – even when exposed to water

Very high mechanical strength, resistance to notches, tension and tearing

For application in interior and exterior areas

Good weathering and ageing resistance

Compatible with coatings according to DIN 52452

Not suitable for marble and other natural stones

#### Fields of application:

For building, extensions and mounting

Elastic bonding and mounting of various materials such as wood, derived wood products, glass, metals (e. g. aluminium, stainless steel, anodising aluminium, brass, copper), plastics (e. g. unplasticised PVC, plasticised PVC, fibrereinforced plastics etc.), mineral substrates (e. g. brick, tile, ceramic), fireproof building panels (gypsum board etc.)

#### Standards and tests:

Suitable for applications according to IVD instruction sheet no. 30 (IVD = German industry association sealants)

French VOC-emission class A+

Certified according to GOS



*Metal on wood*



*Wood on concrete*



*Glass on chipboard*

## OTTO COLL® HiTack



### The hybrid adhesive with high initial adhesion



IVD instruction sheet  
no. 19-1+24+30

#### Characteristics:

1-component sealant based on silane-terminated polymers (hybrid)

Extremely high initial adhesion

Excellent primerless adhesion on numerous substrates – even when exposed to water

Very high mechanical strength, resistance to notches, tension and tearing

For stress-compensating bonding and dynamic stresses

Low odour

Free of isocyanates

Silicone-free

Good weathering and ageing resistance

Compatible with coatings according to DIN 52452

#### Fields of application:

For application in interior and exterior areas

Elastic bonding and mounting of various materials such as wood, derived wood products, glass, metals (e. g. aluminium, stainless steel, anodising aluminium, brass, copper), plastics (e. g. unplasticised PVC, plasticised PVC, fibre-reinforced plastics etc.), mineral substrates (e. g. brick, tile, ceramic), fireproof building panels (gypsum board etc.)

For the bodywork and vehicle construction, wagon and container construction, metal construction and apparatus engineering, ship building

Elastic bonding of mirrors on ceramic, glass, plastic, stainless steel, aluminium, wood, concrete etc.

Bonding of stone, natural stone and ceramic

Bonding of window sills, floor strips, decorative strips and stairs

#### Standards and tests:

Suitable for applications according to IVD instruction sheet no. 19-1+24+30 (IVD = German industry association sealants)

French VOC-emission class A+

Certified according to GOS

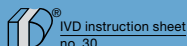
Tested according to UL-94 HB



Adhesion of stainless steel to concrete bases



### The 2-component hybrid mounting adhesive



#### Characteristics:

The 2-component hybrid-polymer-based (STPU) adhesive

Fast curing even in thick layers

Excellent primerless adhesion on numerous substrates – even when exposed to water

For stress-compensating bonding and dynamic stresses

High resistance to notches, tension and tearing

Low odour

Free of isocyanates

Silicone-free

Good weathering and ageing resistance

Compatible with coatings according to DIN 52452

#### Fields of application:

For application in interior and exterior areas

Elastic bonding and mounting of various materials such as wood, derived wood products, glass, metals (e.g. aluminium, stainless steel, anodising aluminium, brass, copper), plastics (e.g. unplasticised PVC, plasticised PVC, fibre-reinforced plastics etc.), mineral substrates (e.g. brick, tile, ceramic), fireproof building panels (gypsum board etc.)

For the bodywork and vehicle construction, waggon and container construction, metal construction and apparatus engineering, ship building

Sealing of air condition and ventilation systems

Bonding of stone, natural stone and ceramic

Elastic bonding of mirrors on ceramic, glass, plastic, stainless steel, aluminium, wood, concrete etc.

#### Standards and tests:

Suitable for applications according to IVD instruction sheet no. 30 (IVD = German industry association sealants)

French VOC-emission class A+

Certified according to GOS



Marble steps on metal



Wood on concrete



Transport engineering

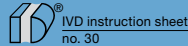


# M 580

## OTTOCOLL® M 580



### The extremely fast 2-component hybrid mounting adhesive



IVD instruction sheet  
no. 30

#### Characteristics:

- The 2-component hybrid-polymer-based (STPU) adhesive
- Extremely fast curing even in thick layers
- Very fast functionality strength
- Excellent primerless adhesion on numerous substrates – even when exposed to water
- For stress-compensating bonding and dynamic stresses
- Low odour
- Free of isocyanates
- Silicone-free
- Good weathering and ageing resistance
- Compatible with coatings according to DIN 52452

#### Fields of application:

- For application in interior and exterior areas
- Elastic bonding and mounting of various materials such as wood, derived wood products, glass, metals (e. g. aluminium, stainless steel, anodising aluminium, brass, copper), plastics (e. g. unplasticised PVC, plasticised PVC, fibre-reinforced plastics etc.), mineral substrates (e. g. brick, tile, ceramic), fireproof building panels (gypsum board etc.)
- For the bodywork and vehicle construction, wagon and container construction, metal construction and apparatus engineering, ship building
- Sealing of air condition and ventilation systems
- Bonding of ceramics
- Bonding of door fillings covering the complete door

#### Standards and tests:

- Suitable for applications according to IVD instruction sheet no. 30 (IVD = German industry association sealants)
- French VOC-emission class A+
- Certified according to GOS
- Declaration in "baubook" Austria

Please take note of the technical data sheet.



Ventilation systems



Bodywork construction



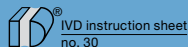
Metal on concrete

# M 590

## OTTOCOLL® M 590



### The hybrid-adhesive for full-surface bonding



#### Characteristics:

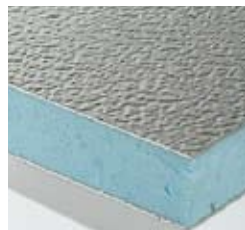
- 1-component sealant based on silane-terminated polymers (hybrid)
- Free-flowing
- Excellent primerless adhesion on numerous substrates – even when exposed to water
- Good weathering and ageing resistance
- For stress-compensating bonding and dynamic stresses
- Low odour
- Free of isocyanates
- Solvent-free
- Silicone-free
- Compatible with coatings according to DIN 52452

#### Fields of application:

- For application in interior and exterior areas
- Elastic bonding and mounting of various materials such as wood, derived wood products, glass, metals (e.g. aluminium, stainless steel, anodising aluminium, brass, copper), plastics (e.g. unplasticised PVC, plasticised PVC, fibrefreinforced plastics etc.), mineral substrates (e.g. brick, tile, ceramic), fireproof building panels (gypsum board etc.)
- For the bodywork and vehicle construction, waggon and container construction, metal construction and apparatus engineering, ship building

#### Standards and tests:

- Suitable for applications according to IVD instruction sheet no. 30 (IVD = German industry association sealants)
- French VOC-emission class A+
- Certified according to GOS
- Declaration in "baubook" Austria



*Sandwich elements*



*Metal on wood*



*Caravan-/vehicle construction*

## OTTOCOLL® P 83



### The PU adhesive/sealant



IVD instruction sheet  
no. 19-1+21+25+30

#### Characteristics:

- 1-component adhesive / sealant based on polyurethane
- Cures practically shrink-free without foaming
- Elastic and stress-compensating
- Non-corrosive
- Silicone-free
- Compatible with coatings according to DIN 52452
- Grindable and paintable after curing
- Extremely high resistance to impact load, shock load and peeling load
- Resistant to water, salt water, weak acids and alkaline, aqueous cleaning agents

#### Fields of application:

- Vibration- and movement-compensating bonding and sealing
- Sealing of air condition and ventilation systems
- For the bodywork and vehicle construction, waggon and container construction, metal construction and apparatus engineering, ship building

#### Standards and tests:

- Declaration of no objection when in contact with food (ISEGA Forschungs- und Untersuchungs-Gesellschaft mbH, Aschaffenburg, Germany)
- Suitable for applications according to IVD instruction sheet no. 19-1+21+25+30 (IVD = German industry association sealants)
- French VOC-emission class A+
- Certified according to GOS



*Transport engineering*



*Bodywork seams*

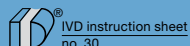


*Caravan-/vehicle construction*

## OTTO COLL® P 84



### The premium PU adhesive



IVD instruction sheet  
no. 30

#### Characteristics:

Flowable 1-component adhesive based on polyurethane

Weathering resistant according to DIN 204 D4

Non-corrosive

Only for commercial users. Please observe the material safety data sheet

#### Fields of application:

Manufacturing garden furniture and window edges

Manufacturing of laminated wood for non-load-bearing parts

Manufacturing sandwich / composite boards, e.g. for partition walls, door parts, exterior walls for prefabricated houses, façade elements, vehicle superstructural parts etc.

Producing finger joints

#### Standards and tests:

Tested according to DIN EN 204-D4 weathering resistant bonding for wood and derived wood products by the ift Rosenheim, Germany (institute for window techniques)

Tested according to DIN EN 14257 (WATT 91) – Bonding strength of sealants for wood and derived wood products (ift Rosenheim, Germany)

Suitable for applications according to IVD instruction sheet no. 30 (IVD = German industry association sealants)

French VOC-emission class C

Certified according to GOS



*Watertight bonds*



*Sandwich elements*



*Finger joint bonds*



*Multilayer panels*

# OTTO COLL® P 85



## The premium PU mounting adhesive



IVD instruction sheet  
no. 30

### Characteristics:

1-component adhesive based on polyurethane

Weathering resistant according to DIN 204 D4

Extremely high adhesion strength

Very fast curing

Non-corrosive

Grindable and paintable after curing

Low odour

Only for commercial users. Please observe the material safety data sheet

### Fields of application:

Firm bonding of metals, e.g. aluminium, stainless steel, galvanised steel, copper

Bonding of stone, natural stone and ceramic

Bonding of insulating units, e.g. made of polystyrene, PVC, PU etc.

Bonding of fireproof panels, e.g. made of gypsum fibreboard or gypsum plasterboard

Firm bonding of wood and derived wood products, e.g. chipboards, plywood etc. and in the staircase renovation

Bonding of plastics, e.g. unplasticized PVC, fibre-reinforced plastics etc.

### Standards and tests:

Tested according to DIN EN 204-D4 weathering resistant bonding for wood and derived wood products by the ift Rosenheim, Germany (institute for window techniques)

Tested according to DIN EN 14257 (WATT 91) – Bonding strength of sealants for wood and derived wood products (ift Rosenheim, Germany)

Suitable for applications according to IVD instruction sheet no. 30 (IVD = German industry association sealants)

Conform to LEED® IEQ-credits 4.1 (Indoor Environmental Quality) adhesives and sealants

French VOC-emission class A+

Certified according to GOS

Please take note of the technical data sheet.



Staircases



Renovation of staircases



Window construction



Work surfaces

# OTTOCOLL® P 86



## The 1-component PU adhesive for corner connections



IVD instruction sheet  
no. 30

### Characteristics:

1-component adhesive based on polyurethane

Excellent adhesion on metals

Long skin-formation

Fills cavities optimally foaming slightly

Tensile strength after 7 days – approx. 14.000 N  
(ift-test certificate)

Only for commercial users. Please observe the material safety data sheet

### Fields of application:

General bonding in metal construction

Weathering resistant bonding of corner joints on metal windows, doors and façades as well as conservatories

Bonding of modified wood

### Standards and tests:

Tensile strength tested by the ift Rosenheim, Germany (institute for window techniques)

According to the requirements of DIN EN 204-D4 to weathering resistant bondings of wood and derived wood products

According to the requirements of DIN EN 14257 (WATT 91) to temperature-resistant bondings of wood and derived wood products

Expertise about the use of OTTOCOLL® P 86 translucent for bonding modified wood (Georg-August-University Göttingen, Germany)

Suitable for applications according to IVD instruction sheet no. 30 (IVD = German industry association sealants)

Conform to LEED® IEQ-credits 4.1 (Indoor Environmental Quality) adhesives and sealants

French VOC-emission class A+

Certified according to GOS



Stop bead/chipboard



Bonding chipboards



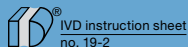
Insulation material with chipboard

# P 270

## OTTOCOLL® P 270



### The dispersion-based solvent-free foil adhesive



#### Characteristics:

- 1-component plastic adhesive based on an aqueous dispersion
- Solvent-free, strongly adhesive, stable, compensates surface irregularities
- Durable adhesive properties
- Ageing resistant
- Follows the movement of the building
- Can also be used without a pressure plate
- Low odour
- Store and transport frost-free

#### Fields of application:

- For application in interior areas
- Airtight connection of vapour-retarder and vapour seals in compliance with DIN 4108
- Not suitable for sauna and swimming pools

#### Standards and tests:

- Suitable for applications according to IVD instruction sheet no. 19-2 (IVD = German industry association sealants)
- French VOC-emission class A+
- Certified according to GOS



#### OTTOTAPE D 251

Adhesive film tape for vapour retarders and vapour barriers



#### OTTOTAPE E 401

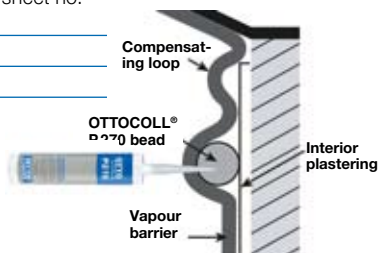
Adhesive tape for vapour retarders and vapour barriers



*Fixes vapour barrier*



*Lay a relief loop*



*Press it on lightly*

Please take note of the technical data sheet.

# OTTOCOLL® Rapid



## The super rapid power adhesive



IVD instruction sheet  
no. 30

### Characteristics:

1-component adhesive based on polyurethane

Extremely fast curing

Extremely high adhesion strength

Non-corrosive

Low odour

Only for commercial users. Please observe the material safety data sheet

### Fields of application:

For building, extensions and mounting

For bonding, mounting, repairing of materials such as wood and derived wood products, metals (aluminium, stainless steel, copper etc.), stone, natural stone, ceramic, bricks, plastics (unplasticised PVC, fibre-reinforced plastics etc.), insulating materials (styrene, PU etc.), fireproof panels (gypsum plasterboard or similar)

### Standards and tests:

According to the requirements of DIN EN 204-D4 to weathering resistant bondings of wood and derived wood products

According to the requirements of DIN EN 14257 (WATT 91) to temperature-resistant bondings of wood and derived wood products

Suitable for applications according to IVD instruction sheet no. 30 (IVD = German industry association sealants)

French VOC-emission class A+

Certified according to GOS



*Metal on wood*



*Metal on stone*



*Cable ducts*



*Plastic on stone*



# P 410

## OTTOCOLL® P 410



### The PU adhesive for full-surface bonding



IVD instruction sheet  
no. 30

#### Characteristics:

Flowable 1-component adhesive based on polyurethane

Long processing time

Fast curing thus short pressing and fixing times

Weathering resistant according to DIN 204 D4

Non-corrosive

Ideally suitable for automated processing via dosing equipment

Only for commercial users. Please observe the material safety data sheet

#### Fields of application:

Manufacturing sandwich / composite boards, e.g. for partition walls, door parts, exterior walls for prefabricated houses, façade elements, vehicle superstructural parts etc.

Bonding of large-surface elements, e.g. for prefabricated houses, caravan and container construction

Manufacturing garden furniture and window edges

#### Standards and tests:

According to the requirements of DIN EN 204-D4 to weathering resistant bondings of wood and derived wood products

According to the requirements of DIN EN 14257 (WATT 91) to temperature-resistant bondings of wood and derived wood products

Suitable for applications according to IVD instruction sheet no. 30 (IVD = German industry association sealants)

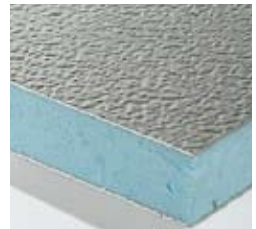
Conform to LEED® IEQ-credits 4.1 (Indoor Environmental Quality) adhesives and sealants

French VOC-emission class A+

Certified according to GOS



Prefabricated house construction



Sandwich elements



Partition walls



Door elements

Please take note of the technical data sheet.

## OTTO COLL® P 520



### The premium 2-component PU adhesive



IVD instruction sheet  
no. 30

#### Characteristics:

2-component adhesive based on polyurethane

Fast curing even in thick layers

Non-shrink curing

Excellent adhesion on metals

Extremely high tensile strength after 24 hours – approx. 14.000 (ift-test certificate)

For professional use only. Please observe the material safety data sheet

#### Fields of application:

Weathering resistant bonding of corner joints on metal windows, doors and façades as well as conservatories

General bonding in metal construction

Also suitable for firm bonding of very different materials such as wood, metal, plastics, stone etc.

#### Standards and tests:

Tensile strength tested by the ift Rosenheim, Germany (institute for window techniques)

According to the requirements of DIN EN 204-D4 to weathering resistant bondings of wood and derived wood products

According to the requirements of DIN EN 14257 (WATT 91) to temperature-resistant bondings of wood and derived wood products

Suitable for applications according to IVD instruction sheet no. 30 (IVD = German industry association sealants)

Conform to LEED® IEQ-credits 4.1 (Indoor Environmental Quality) adhesives and sealants

French VOC-emission class A+

Certified according to GOS



Stop bead/chipboard



Bonding chipboards



Bonding natural stone

# OTTOSEAL® S 10



## The sealant for glass constructions



IVD instruction sheet  
no. 22+30

### Characteristics:

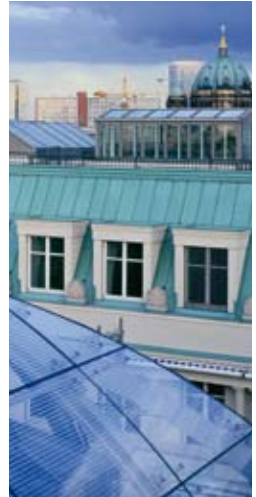
- Neutral-curing 1-component silicone sealant
- Excellent weathering, ageing and UV-resistance
- Excellent adhesion on many substrates, partly in combination with primer
- Non-corrosive
- High resistance to notches, tension and tearing
- Compatible with PVB-foils according to the criteria of the ift-guideline DI-02/1

### Fields of application:

- Sealing of expansion joints in building construction
- Also suitable for weather sealing of structural glazing, angled glazing, timber-glass-composite elements, roof glazing and conservatories
- Suitable for sealing glazing units
- Installation of X-ray protective glass
- Elastic sealing in the electric industry, mechanical engineering, automotive and shipbuilding
- Not suitable for the structural bonding of structural glazing units

### Standards and tests:

- The manufacturer has tested and confirmed the compatibility to strainless Plexiglas®. Test report on the compatibility with Plexiglas®-XT is available
- Tested and recommended by Schott Desag AG Deutsches Spezialglas, D-31073 Grünenplan, for the installation of RD 50 and RD 30 X-ray protective glass
- UL 94 Flame Classification HB, RTI 105°C, File No. E 176319
- Suitable for applications according to IVD instruction sheet no. 22+30 (IVD = German industry association sealants)
- Conform to LEED® IEQ-credits 4.1 (Indoor Environmental Quality) adhesives and sealants
- Fulfills DGNB-characteristics 06 (DGNB e.V. = German Organisation for sustainable building)
- French VOC-emission class A+
- Certified according to GOS



Sealing the glass façades



Sealing slanted glazing

# OTTOSEAL® S 70



## The premium natural stone silicone



IVD instruction sheet  
no. 14+23+25+27+30

### Characteristics:

- Neutral-curing 1-component silicone sealant
- Guarantee – does not cause any migratory staining on natural stone
- High resistance to notches, tension and tearing
- Excellent weathering, ageing and UV-resistance
- Non-corrosive
- Contains fungicides
- Also in “structure” colours with a stonelike surface
- Also available in “matt finished” colours
- Matt colours are only to be smoothed off dry
- Stress expansion modulus at 100 % (DIN 53 504, S3A): 0,5 N/mm<sup>2</sup>

### Fields of application:

- Sealing and jointing on marble and all natural stones, e.g. sandstone, quartzite, granite, gneiss, porphyry etc. in interior and exterior areas
- Sealing of expansion joints in wall and façade areas
- Movement-compensating bonding of natural stone on metal, e.g. stairs on a metal construction
- Sealing and jointing of marble / natural stone swimming pools, also underwater joints
- Sealing of lacquered and enamelled glass
- For the external sealing of mirrors in connection with natural stone

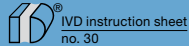
### Standards and tests:

- Tested according to ISO 16938-1 of SKZ Würzburg (Testing for migratory staining of sealants on natural stone)
- Tested according to ASTM C 1248 by DL Laboratories, New York (Testing for migratory staining of sealants on natural stone)
- “Highly recommendable non-hazardous building product” according to building material list (TOXPROOF) of the TÜV Rheinland, Germany
- Suitable for applications according to IVD instruction sheet no. 14+23+25+27+30 (IVD = German industry association sealants)
- Quality seal of the IVD (Industrial association for sealants, registered society), tested by the ift Rosenheim (Institute of window engineering, registered society)
- According to regulation (EG) Nr. 1907/2006 (REACH)
- Conform to LEED® IEQ-credits 4.1 (Indoor Environmental Quality) adhesives and sealants
- Fulfills DGNB-characteristics 06 (DGNB e.V. = German Organisation for sustainable building)
- French VOC-emission class A+
- Certified according to GOS
- Declaration in “baubook” Austria

Please take note of the technical data sheet.

# S610

## OTTO COLL® S610



IVD instruction sheet  
no. 30

### The 2-component special silicone sealant

#### Characteristics:

Neutral, condensation-curing 2-component silicone adhesive and sealant based on alcoxy

Excellent weathering, ageing and UV-resistance

High resistance to notches, tension and tearing

Excellent adhesion on many substrates, partly in combination with primer

Non-corrosive

High expansion-tension value guarantees high stability bonding

Reduced cycle times – due to the fast curing bonded parts can be further processed extremely soon

Fast curing even in thick layers

Low odour

#### Fields of application:

Elastic bonding and sealing of various materials, e.g. glass, wood, metal and plastics

Sealing of floor joints subject to high mechanical stress, e.g. in storage and production halls, yard areas, parking decks, underground car parks, workshops, car washes etc.

Elastic bonding of mirrors on ceramic, glass, plastic, stainless steel, aluminium, wood, concrete etc.

Also suitable as adhesive for acrylic glass mirrors (e.g. Plexiglas®)

Not suitable for the structural bonding of structural glazing units

#### Standards and tests:

Suitable for applications according to IVD instruction sheet no. 30 (IVD = German industry association sealants)

French VOC-emission class A+

Certified according to GOS



Industrial joint



Painted glass on wood

ADHESIVE	BASIS	CONSI-STENCY	PROCESSING TIME
<b>OTTOCOLL® TopFix</b> The ultrafast fixing adhesive	Single-component acrylate	paste-like	approx. 10 min.
<b>OTTOCOLL® A 770</b> The dispersion acrylic adhesive for OTTO Window Tapes	Single-component acrylate	paste-like	approx. 10 min.
<b>OTTOSEAL® M 365</b> The hybrid adhesive and sealant	Single component STPU (hybrid polymer)	stable, pasty	approx. 40 min.
<b>OTTOCOLL® M 500</b> The water-resistant premium hybrid adhesive/sealant	Single component STPU (hybrid polymer)	paste-like	approx. 20 min.*
<b>OTTOCOLL® M 501</b> The transparent premium hybrid-adhesive	Single component STPU (hybrid polymer)	paste-like	approx. 45 min.*
<b>OTTOCOLL® M 510</b> The hybrid adhesive with high bonding strength	Single component STPU (hybrid polymer)	stable, pasty	approx. 10 min.*
<b>OTTOCOLL® Allflex</b> The ultra flexible mounting adhesive	Single component STPU (hybrid polymer)	paste-like	15 min.*
<b>OTTOCOLL® HiTack</b> The hybrid adhesive with high initial adhesion	Single component STPU (hybrid polymer)	paste-like	approx. 40 min.
<b>OTTOCOLL® M 570</b> The 2-component hybrid mounting adhesive	2-component STPU (hybrid polymer)	paste-like	15 min.
<b>OTTOCOLL® M 580</b> The extremely fast 2-component hybrid mounting adhesive	2-component STPU (hybrid polymer)	paste-like	approx. 5–10 min.
<b>OTTOCOLL® M 590</b> The hybrid-adhesive for full-surface bonding	Single component STPU (hybrid polymer)	pourable	approx. 50 min.
<b>OTTOCOLL® P 83</b> The PU adhesive/sealant	Single-component PU	paste-like	approx. 50 min.
<b>OTTOCOLL® P 84</b> The premium PU adhesive	Single-component PU	pourable	approx. 20 min.*
<b>OTTOCOLL® P 85</b> The premium PU mounting adhesive	Single-component PU	paste-like	approx. 5–10 min. (coloured)* approx. 20 min. (translucent)*
<b>OTTOCOLL® P 86</b> The 1-component PU adhesive for corner connections	Single-component PU	paste-like	approx. 20 min.*
<b>OTTOCOLL® P 270</b> The dispersion-based solvent-free foil adhesive	watery dispersion	paste-like	approx. 15–20 min.
<b>OTTOCOLL® Rapid</b> The super rapid power adhesive	Single-component PU	paste-like	approx. 4 min.*
<b>OTTOCOLL® P 410</b> The PU adhesive for full-surface bonding	Single-component PU	pourable	approx. 80 min.*
<b>OTTOCOLL® P 520</b> The premium 2-component PU adhesive	2-component PU	paste-like	approx. 45 min.*
<b>OTTOSEAL® S 10</b> The sealant for glass constructions	Single-component special	paste-like	approx. 5 min.
<b>OTTOSEAL® S 70</b> The premium natural stone silicone	Single-component special	paste-like	approx. 5 min.
<b>OTTOCOLL® S 610</b> The 2-component special silicone sealant	2-component sealant	paste-like	approx. 20 min.*

\* Skin-formation time and pot life can be adapted to your individual requirements.

PROCESSING TEMPERATURE	TEMPERATURE STABILITY	STORAGE**	STABILITY IN STORAGE
+5°C to +35°C	-20°C to +80°C	if stored free of frost	12 months at 23°C / 50% residual air humidity in the original sealed containers from the time of manufacture
+5°C to +35°C	-20°C to +80°C	if stored free of frost	12 months at 23°C / 50% residual air humidity for cartridge / sachet
+5°C to +40°C	-40°C to +90°C	protect from moisture	9 months at 23°C / 50% residual air humidity for cartridge / sachet
+5°C to +40°C	-40°C to +90°C	protect from moisture	9 months at 23°C / 50% residual air humidity
+5°C to +40°C	-40°C to +90°C	protect from moisture	9 months at 23°C / 50% residual air humidity
+5°C to +40°C	-40°C to +90°C	protect from moisture	9 months at 23°C / 50% residual air humidity
+5°C to +40°C	-40°C to +90°C	protect from moisture	9 months at 23°C / 50% residual air humidity
+5°C to +40°C	-40°C to +90°C	If stored for a longer period at higher temperatures ( $\geq 30^\circ\text{C}$ ) a diminishment of the initial adhesion may occur, must be protected from moisture	9 months at 23°C / 50% residual air humidity
+5°C to +40°C	-40°C to +100°C	protect from moisture	9 months at 23°C / 50% residual air humidity
+5°C to +40°C	-40°C to +80°C	protect from moisture	6 months at 23°C / 50% residual air humidity
+5°C to +40°C	-40°C to +90°C	protect from moisture	9 months at 23°C / 50% residual air humidity for sachet
+5°C to +35°C	-40°C to +80°C	protect from moisture	12 months at 23°C / 50% residual air humidity for cartridge / sachet
not below +5°C	-30°C to +80°C, for short times +100°C	protect from moisture	12 months at 23°C / 50% residual air humidity in the original sealed containers
+5°C to +35°C	-30°C to +80°C, for short times +100°C	protect from moisture	12 months at 23°C / 50% residual air humidity for cartridge / sachet
+5°C to +35°C	-30°C to +80°C, for short times +100°C	protect from moisture	12 months at 23°C / 50% residual air humidity in the original sealed containers
+5°C to +35°C	-20°C to +80°C	+5°C to +30°C, frost-free	12 months at 23°C / 50% residual air humidity for cartridge / sachet
+5°C to +35°C	-30°C to +80°C, for short times +100°C	protect from moisture	9 months at 23°C / 50% residual air humidity for cartridge / sachet
+5°C to +35°C	-30°C to +80°C, for short times +100°C	protect from moisture	9 months at 23°C / 50% residual air humidity in the original sealed containers
+5°C to +35°C	-30°C to +80°C, for short times +100°C	protect from moisture	12 months at 23°C / 50% residual air humidity for cartridge
+5°C to +40°C	-40°C to +180°C		12 months at 23°C / 50% residual air humidity for cartridge / sachet in sealed containers from the date of manufacture
+5°C to +35°C	-40°C to +180°C		15 months at 23°C / 50% residual air humidity for cartridge / sachet
+5°C to +40°C	-40°C to +180°C		9 months at 23°C / 50% residual air humidity

\*\* We recommend storing the adhesives/sealants in the unopened original containers in a dry place (<60% residual air humidity) at temperatures ranging from +15°C to +25°C. If the products are stored at a higher temperature/air humidity for extended periods (several weeks) and /or transported, a reduction of the shelf life changes to the material characteristics cannot be excluded.

#### **OTTO Head office**

Tel.: 0049-8684-908-540  
Fax: 0049-8684-908-549  
E-mail: [info@otto-chemie.com](mailto:info@otto-chemie.com)  
From UK: 0800-783 60 53

#### **OTTO Technical Service**

Tel.: 0049-8684-908-460  
Fax: 0049-8684-908-469  
E-mail: [tae@otto-chemie.de](mailto:tae@otto-chemie.de)

#### **OTTO Order processing**

Tel.: 0049-8684-908-310  
Fax: 0049-8684-908-319  
E-mail: [mab@otto-chemie.de](mailto:mab@otto-chemie.de)

Your specialised dealer:

In order to ensure a quick and correct handling of your orders we would like to ask you to send them by fax or e-mail. Thank you in advance for your cooperation.

#### **Notes:**

The information in the present document corresponds to the status quo on going to print, refer to the index. With a new edition this edition becomes invalid. Due to the many possible influences during and after application, the customer always has to carry out trials first. Please observe the respective technical data sheet! This information is available on the Internet at [www.otto-chemie.com](http://www.otto-chemie.com). Errors and typographical errors are excepted.

*For further information please contact:*



**Sealants • Adhesives**

Hermann Otto GmbH · Krankenhausstr. 14 · 83413 Fridolfing, GERMANY  
Tel.: 0049-8684-908-0 · Fax: 0049-8684-1260  
E-mail: [info@otto-chemie.de](mailto:info@otto-chemie.de) · Internet: [www.otto-chemie.com](http://www.otto-chemie.com)