



STRONG BONDING IN COLD AND FROST

tesa® product range for use at low temperatures



Reliable bonding even at -10 °C

The cold resistance of an adhesive bond depends on the suitability of an adhesive tape for use even at low temperatures. In this context, the processing temperature plays a major role and is a strict limiting factor. This is due to the fact that at room temperature the adhesive is fluid enough to fully adapt to the surface structure, assuming there is sufficient pressure. At lower temperatures (below 10 °C), the fluidity required for effective bonding is considerably reduced. This severely limits the use of most adhesive tape systems in cold application areas.

For the special requirements imposed by a cold environment, we have developed a product range of double- and single-sided tapes with which you can create reliable adhesive bonds at temperatures as low as -10 °C.

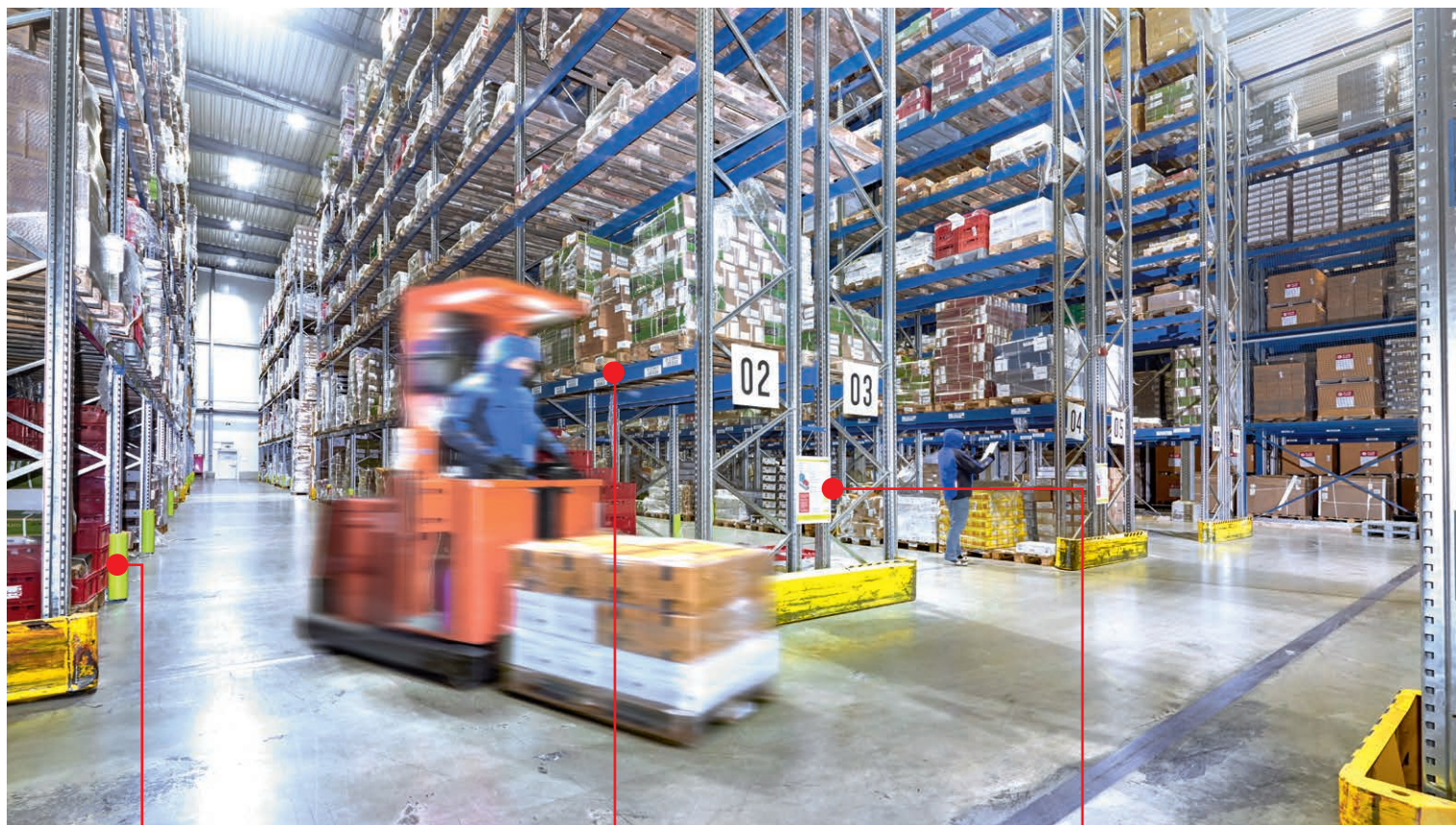
The advantages of such a product range are obvious – shorter processing times, no waiting times and reliable bonding for industries such as the following:

- Construction industry
- Warehousing and logistics
- Point of sale

Our range covers the following applications:

- Temporary bonding
- Permanent fastening of light elements
- Structural bonding of heavily stressed parts
- Single-sided adhesive tape solutions

WAREHOUSING AND LOGISTICS



Protective profiles

Fastening of light protective profiles such as impact protection, surface protection or edge and corner protection profiles in the warehouse and logistics area.

Product recommendation:

- tesa® 51920



Signs and labelling systems

Bonding of signs and labelling systems, such as scanning rails, price signs and shelf signs, e.g. on coated metal surfaces.

Product recommendation:

- tesa® 62957 (for smooth and rough surfaces)
- tesa® 51920 (for smooth surfaces)



Bonding of warning and parking space marking systems in warehouse and logistics areas. The adhesive tape must not have too high a profile when applied in these situations and must be durable.

Product recommendation:

- tesa® 51920

POS – POINT OF SALE

Scanning rails

Permanent fastening of price signs and scanning rails to shelves. Bonding surfaces are mostly plastic signs on painted metal surfaces.

Product recommendation:

- tesa® 62957 (for smooth and rough surfaces)
- tesa® 51920 (for smooth surfaces)

Impact protection profiles

Bonding of impact protection profiles in the POS area with strict requirements for the impact strength of the bond. Fastening mostly on coated metal surfaces.

Product recommendation:

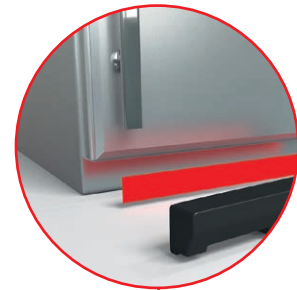
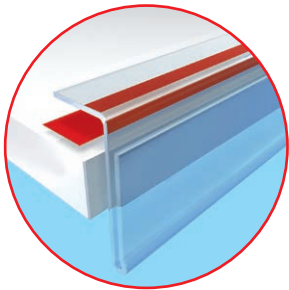
- tesa® 92111 HiP – High initial Performance

Handles and strips

Bonding of handles and strips such as small bumper strips, decorative and cover strips for cooling and refrigeration equipment in the POS area.

Product recommendation:

- tesa® 62957 (standard)
- tesa® 92111 HiP – High initial Performance



CONSTRUCTION INDUSTRY

Flat trims / profiles

Permanent bonding of trims and profiles for covering transitions or decorative trims, e.g. in window areas. For fastenings, i.a. on PVC, wood and aluminium, where the adhesive bond absorbs tension and seals at the same time.

Product recommendation:

- tesa® 62957

Plaster and corner profiles

Temporary bonding of corner profiles made of aluminium, sheet steel or plastic for precise and stable corner formation. The tape has a low profile when applied and allows problem-free plastering. The durable backing with high mass application ensures reliable bonding.

Product recommendation:

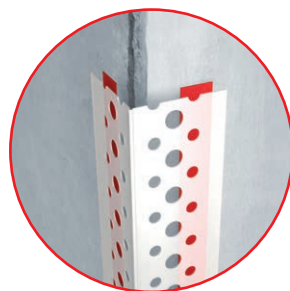
- tesa® 51920

Connecting profiles / plastering strips

Fastening of building profiles and plastering strips to produce a precise connection of plastering systems to window frames. For permanent bonding of profiles to PVC and short-term bonding of protective lips with a construction foil.

Product recommendation:

- tesa® 62957 (profile bonding)
- tesa® 52210 (protective lip with foil)



RANGE OVERVIEW AND TIPS FOR PROCESSING




tesa® cold-resistant products

Double-sided tape solutions

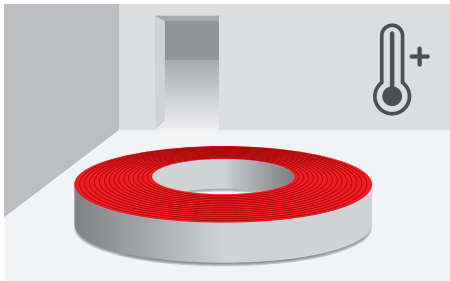
Category	tesa® double-sided tape with polymer foam backing	tesa® double-sided tapes with foam backing	tesa® double-sided tapes with foil backing	tesa® double-sided tapes with fabric backing
Product				
	tesa® 92111 HiP – High initial Performance	tesa® 62957	tesa® 51920	tesa® 52210
Product benefits	<ul style="list-style-type: none"> • High instant adhesive strength on LSE plastic surfaces (e.g. PP) without pretreatment • Humidity and ageing resistant • Very good sealing properties • Low VOC values (according to GB 27630) – no critical substances measurable 	<ul style="list-style-type: none"> • Sealing against dust, dirt and humidity • High instant and permanent adhesion • Foam backing compensates for unevenness and gap tolerances • Elastic layer optimally absorbs shocks • UV and weather resistance 	<ul style="list-style-type: none"> • High adhesive application • High tear strength and mechanical resistance of the backing • UV and weather resistance • For bonds with small gap tolerances • Low VOC content 	<ul style="list-style-type: none"> • Flexible and supple backing • Hand tearable • Ideal for smooth surfaces • Well suited for temporary bonding • Low VOC content
Colour (backing)	Black	White	White	Translucent
Total thickness [µm]	1.100	1.000	200	100
Bond strength on steel [N/cm]	39	13,5	13	11,5
Application range up to [°C]	0	-10	-10	-5

The quality of tesa® products is continuously checked at the highest level and is therefore subject to strict controls. We provide all the above technical information and data to the best of our knowledge based on practical experience. The data represent average values and are not suitable for a specification. Consequently, tesa SE can neither expressly nor implicitly provide a guarantee, which also applies in particular to the marketability and suitability for a specific purpose. The user is responsible for deciding whether a tesa® product is suitable for their specific purpose and type of application. If you need any help in this respect, our technical staff will be happy to provide you with appropriate advice.

Single-sided adhesive tape solutions

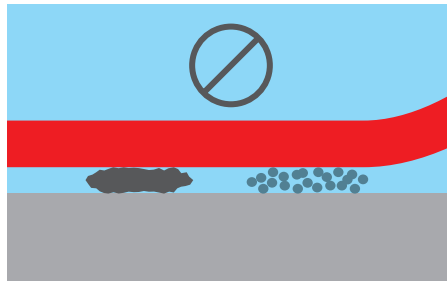
Category	tesa® packaging tapes	tesa® PVC masking tapes	tesa® aluminium tapes
Product			
	tesa® 64044	tesa® 4843	tesa® 60652
Product benefits	<ul style="list-style-type: none"> • Can be unrolled evenly and quietly • High tear resistance • Suitable for sealing dangerous goods packaging as per type 4G • Suitable for manual and machine processing 	<ul style="list-style-type: none"> • Supple and flexible PVC backing • Strong adhesion and insensitive to humidity • High backing stability • Can also be used with higher mechanical loads 	<ul style="list-style-type: none"> • High initial and final adhesive strength • High backing stability and resistance to acid, humidity and temperature • Certified to DIN EN 4102 and UL 510A (flame protection) • Masking tape in pipe and cable areas
Application range up to [°C]	0°C	0°C	-5°C

Application instructions for bonding in the cold



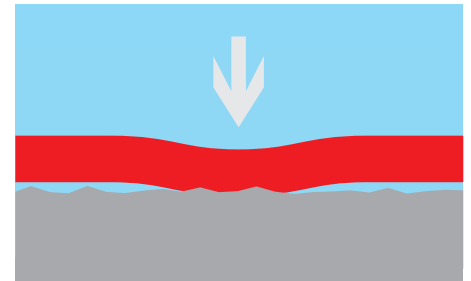
Storage temperature

tesa® adhesive tapes are best stored at temperatures of 15-35 °C and normal relative humidity of 50-70%. If the adhesive tapes are stored at a low temperature range, the tape should be reconditioned at room temperature before use.



Surface cleaning

The surfaces to be bonded must be clean and dry. Bonding is not possible on icy and frozen surfaces. Remove dirt and humidity/frost layer very carefully. For this purpose, use lint-free cloths and suitable solvents such as isopropanol, acetone or MEK (methyl ethyl ketone). Only use cleaning agents that are compatible with the material.



Pressure

After the adhesive tape has been applied and the surfaces for bonding have been joined together, a sufficiently high pressure must be ensured. This is particularly important for applications at the low temperature range. A sufficiently high pressure is achieved if the adhesive tape is rolled on with a weight of 1 kg per 10 mm of adhesive tape width. When joining two components, a contact pressure of at least 2 bar (= 20 N/cm²) must be ensured.



Our quality management system is certified according to the standards
ISO 9001, ISO/TS 16949 and ISO 14001.