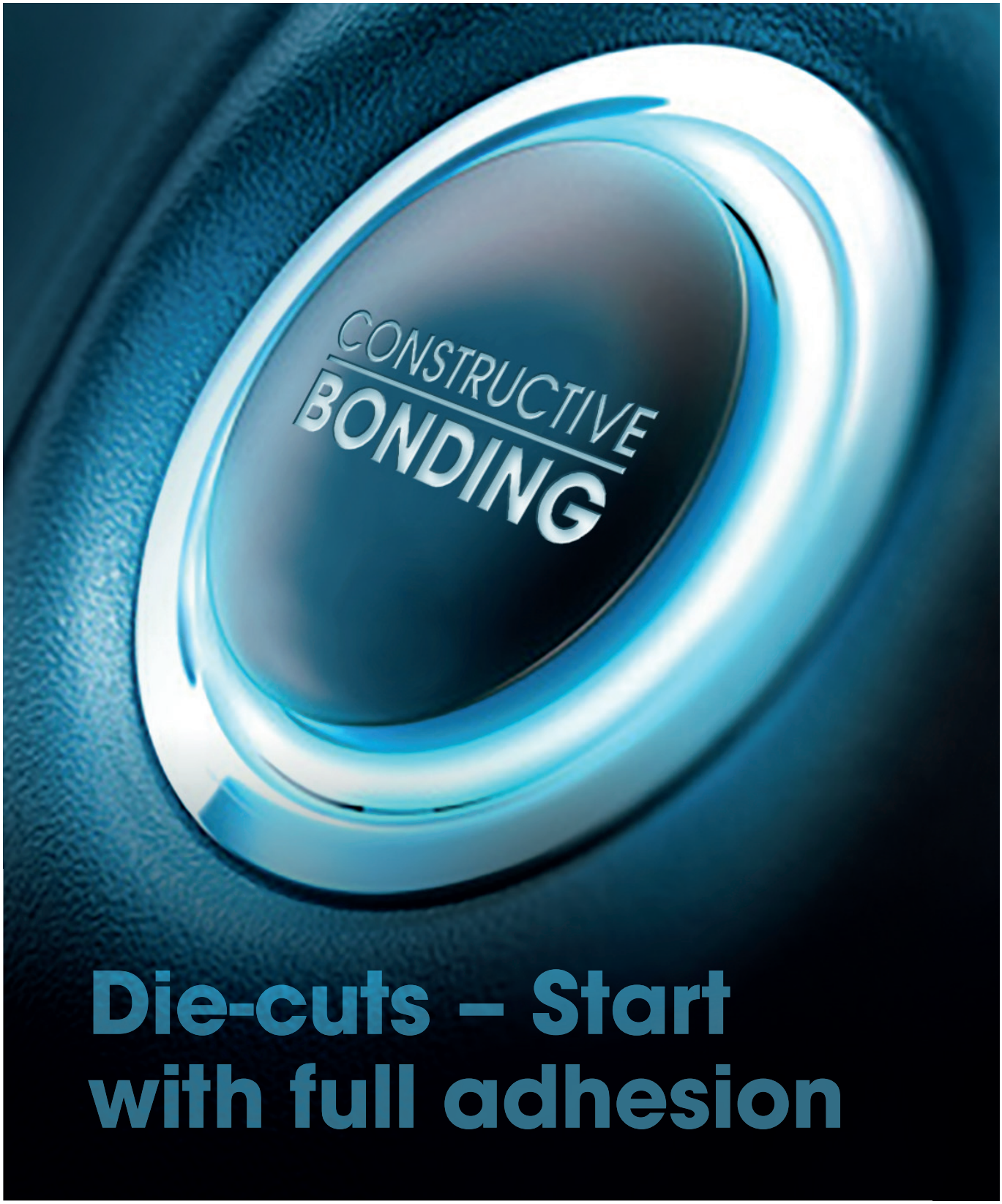
Steierform®

innovative self adhesive technology

Certified in accordance with
ISO 9001
IATF 16949
ISO 14001



Die-cuts – Start with full adhesion

Constructive bonding

We have the solution for your application

www.steier.de

BETTER ADHESION

Strong in application

Double-sided adhesive die-cuts are versatile and adaptable, can be processed quickly and be perfectly integrated into efficient processing operations. The combination of high-performance adhesive tape material and state-of-the-art die-cutting technology opens up a broad range of applications in all branches of the industry.

We offer you self-adhesive product and system solutions which optimise your processing operations and thus increase product quality while providing advantages on the cost side at the same time.

Low VOC – perfect for the inside!

Low-emission low VOC adhesive tapes are perfect as a mounting solution for interior applications, for insulation fleece on the spray wall, for decorative elements or seals and for fixing in the side panels and in the dashboard among other things. Tailor-made self-adhesive die-cuts thus solve a multitude of problems in the interior and meet the requirements in accordance with VDA 278.

For all purposes – high-performance self-adhesive technology in industrial applications

Mechanical engineering

Here, the traditional joining processes such as riveting, screwing or welding are being replaced with adhesive joints for time, cost and weight reasons more and more frequently. High-strength joints allow for the compensation of static and dynamic loads.

Medical technology

In complex instruments, maximum safety and the highest hygiene standards are required. Secure assembly of the plastic or metal housing parts, the adhesion of seals or fixing of displays place very high demands on self-adhesive tapes.

Electronics industry

The advantages of self-adhesive tapes in this sector include: high thermal capacity, good compensation of tension between different substrates, sealing functions, insulating material properties, e.g. for adhesion of fragile displays. Tailor-made die-cuts thus allow for perfect industry solutions.

Plastics industry

The range of tasks for self-adhesive tapes is as diverse as the selection of plastic materials. In particular, adaptation to suit the mostly different surface energies can often only be done with modern adhesive systems. Typical applications are bonding onto moulded parts with coated or uncoated surfaces.

Transportation – automotive industry

Constructive bondings for attachment parts in automotive technology place the highest requirements on self-adhesive tapes in external areas. Mechanical joining processes such as riveting or welding are not suitable when various materials such as glass, metal and plastic are used at the same time. In addition strict design specifications require “invisible” joints.

Self-adhesive solutions are suitable for all sectors of mobile vehicle technology, from bicycles through electric scooters to railway technology. Thanks to e-mobility, the aspect of weight reduction with no change to the high joint strength and efficient processing are increasingly important.

CONSTRUCTIVE JOINING

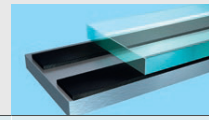
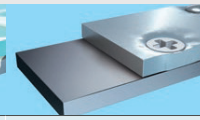
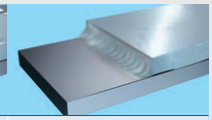
The strongest adhesions with Steier

Mechanical strain, external environmental influences, different surfaces, as well as production techniques and economic aspects – constructive joining is a complex task. Thanks to innovative materials and new manufacturing processes, double-sided bonding is becoming increasingly common as a joining process.

In many fields, self-adhesive die-cuts which offer a multitude of benefits are now used. As an expert in self-adhesive technology, we provide you with a brief overview of the topic here.

The advantages of constructive bonding in comparison with other types of joints

The chart below shows you the advantages of self-adhesive solutions.

			Double-sided adhesive tape	Liquid adhesive	Mechanical joining	Welding/soldering
						
DESIGN		Improved optical appearance – no damage to the material structure	••••	•••	•	••
		Invisible attachment – installation of transparent and translucent materials	••••	•••	•	•
INSTALLATION		Rapid installation – no drying time and little preparation and finishing	•••	•	••	•
		Healthy working and clean production conditions	••••	••	••	•
QUALITY		Compensation of irregularities or uneven surfaces – gap tolerances are eliminated	•••	••••	•	••••
		Compensation of tension – compensation of mechanical and thermal strains	••••	••	•	•
		Sound absorbing properties – noises caused by vibration are eliminated	••••	•••	•	•
		Shock absorption – absorption of a high dynamic load	••••	••	•	••
		Sealing function – adhesive tape seals and protects against dust and moisture	••••	••••	••	••••
		Reduced risk of corrosion – the bonded surfaces are not mechanically damaged	••••	••••	•	•

•••• Very good ••• Good •• Medium • Poor

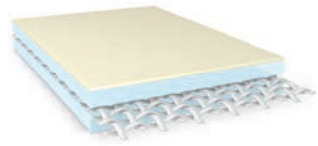
The correct material

The backing materials and the particular adhesive system used are crucial for the structure, properties and performance characteristics of self-adhesive tapes. Similarly to a modular system, the double-sided coatings result in numerous options for combinations in order to perfectly match the bonding to the application. The right choice of material is therefore of critical importance, not least because it also has an effect on the production processes and costs.

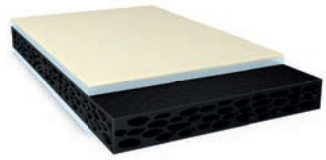
Transfer tapes
No backing, transparent and supple

Non-woven adhesive tape
Flexible thanks to a relatively low total thickness

Film tape
Thin, dimensionally stable and ideal for smooth surfaces such as glass and metal



Duct tape
Particularly temperature-resistant and abrasion-resistant



Foam adhesive tape
Tolerating gaps which compensate tension, absorbs shocks and noise

tesa® ACX^plus acrylic foam adhesive tape
Viscoelastic, permanently high adhesive strength, compensates tension

Material solutions from Steier

We manufacture individual die-cuts from our extensive double-sided adhesive material portfolio according to your specifications.

Our experts are happy to provide you with detailed advice on all questions concerning the choice of material!

Transfer tape with PET scrim, colourless – Steierform 87-90113
Water-based acrylate, extremely high immediate adhesive strength, ideal for self-adhesive attachment of foams, for substrates which are rough and difficult to wet in the interior of vehicles. Very low volatile organic compound values (low VOC – VDA 278).

Thickness	0.13 mm
Adhesive strength (on steel)	41.25 N/25 mm
Temp. resistance	-40 °C to 180 °C

Non-woven adhesive tape, colourless – Steierform 87-92419
Temperature and ageing-resistant, designed for self-adhesive attachment, bonding, splicing, lamination, mounting on polar plastic surfaces and various metals, closed-surface foams, papers and cardboards.

Thickness	0.10 mm
Adhesive strength (on steel)	22 N/25 mm
Temp. resistance	-40 °C to 120 °C

Non-woven adhesive tape, colourless – Steierform 87-92414
Thick adhesive padding, temperature and ageing-resistant, particularly suitable for self-adhesive attachment and bonding of rough, slightly textured and open-pored joining partners such as textiles, impregnated foams, wood-based surfaces, etc.

Thickness	0.16 mm
Adhesive strength (on steel)	29 N/2 5mm
Temp. resistance	-40 °C to 120 °C

Adhesives and surfaces

A variety of adhesive masses are available for constructive bonding. The specific properties are based on the physical structure and can be chosen to suit the application requirements. The surfaces to be bonded are a key criterion here.

We differentiate between low-energy (non-polar) and high-energy (polar) substrates. Non-polar surfaces are characterised by low wettability and offer less adhesion than polar surfaces with good wettability. These high-energy surfaces therefore bond very well.

High-energy/polar surfaces:
e.g. aluminium, steel, polyester, PVC, etc.

Low-energy/non-polar surfaces:
e.g. silicone and natural rubber, polyethylene (PE), polypropylene (PP)

Pure acrylate
Properties: stable under high temperatures and shear stress, ageing-resistant
Use: polar and pre-treated non-polar substrates

Modified acrylate
Properties: individually adaptable, strong initial adhesive strength, high durability
Use: polar and non-polar surfaces

Acrylic foam
Properties: very high adhesive strength, good shear-resistance even with heat, UV and solvent-resistant, good geometric adaptability
Use: ideal for the highest demands

Natural rubber
Properties: good adaptability for flexible fabric backing cloths in interiors, high immediate adhesive strength
Use: polar, non-polar and rough substrates

Synthetic rubber
Properties: good initial adhesive strength, cost-efficient
Use: polar and non-polar surfaces

PET adhesive tape, colourless – Steierform 87-92400
For reversible joints – on both sides a modified, temperature and humidity-resistant acrylate adhesive with different adhesive strength. Open side of the adhesive tape strong adhesion with high strength values on polar surfaces, other side with low adhesion, can be removed from various materials very easily and with no residue.

Thickness	0.10 mm
Adhesive strength (on steel)	20 N (1.5 N)/25 mm
Temp. resistance	-40 °C to 120 °C

PET adhesive tape, colourless – Steierform 87-92403
Constructive bondings in materials with smooth surfaces, low material strength, UV-resistant, continuously temperature-resistant, resistant to various aliphatic solvents, fats, mineral oils, weak acids and alkaline media, humidity-resistant.

Thickness	0.07 mm
Adhesive strength (on steel)	16 N/25 mm
Temp. resistance	-40 °C to 170 °C

PET adhesive tape, colourless or black – Steierform 87-92401 oder 87-82401
Modified acrylate, colourless or coloured backing, excellent adhesion on high-energy substrates, the thick adhesive padding on both sides allows for adhesion on porous, rough or tissue-like surfaces, short-term resistance up to 180 °C. Other properties: UV-resistant, chemical-resistant and humidity-resistant.

Thickness	0.21 mm
Adhesive strength (on steel)	>32 N/25 mm
Temp. resistance	-40 °C to 160 °C

PET adhesive tape, colourless – Steierform 87-90165
Constructive bondings in smooth, rough or textured materials, modified ageing and plasticizer-resistant acrylate adhesive with high tack, short-term resistance up to 200 °C, good adhesion values are generally still achieved on non-polar surfaces, UL approved.

Thickness	0.205 mm
Adhesive strength (on steel)	29.5 N/2 5mm
Temp. resistance	continuous 100 °C

PVC adhesive tape, white – Steierform 87-92413
Supple PVC film backing, modified acrylate, shear-resistant, good resistance to chemicals and solvents, UV and humidity-resistant, excellent adhesive strength on metal, paint and high-energy plastic surfaces and good permanent adhesive strength on low-energy surfaces, can also be used on rough or textured substrates.

Thickness	0.27 mm
Adhesive strength (on steel)	42 N/25 mm
Temp. resistance	-40 °C to 80 °C

Advantages of die-cuts

Die-cuts offer a wide range of applications and can be perfectly integrated into production processes. Many of them such as automated processes with single piece feeders are complex and require individual solutions.

Performance characteristics are:

- Properties of the original adhesive tape
- Wide variety of material combinations
- Special shapes
- Customised configurations
- More efficient processing in production
- Significant cost-savings
- Wide variety of options in automated processing operations

Duct tape, white – Steierform 87-90164
Natural rubber adhesive with thick adhesive padding, tear-resistant, mechanically resilient, flexible and adaptable, can also be used on non-polar surfaces such as polypropylene/ polyethylene, can be removed from many polar substrates with no residue.

Thickness	0.39 mm
Adhesive strength (on steel)	18.75 N/25 mm
Temp. resistance	30 °C

PE foam adhesive tape, white and black – Steierform 87-90132
Double-sided adhesive PE foam backing for constructive applications, very high initial adhesive strength and outstanding final adhesive strength, humidity-resistant, levels irregularities in the surfaces, insulating properties with shock absorption and vibration reduction despite low installation height.

Thickness	0.50 mm
Adhesive strength (on steel)	42.5 N/25 mm
Temp. resistance	to 80 °C

PE foam adhesive tape, white – Steierform 87-92444
Double-sided adhesive PE foam backing, closed cell, for constructive self-adhesive attachment and bonding of strips, panels, signs, scales, ducts made from plastic, glass, metal, ceramic, etc. with damping material properties. Large gap dimensions can be bridged.

Thickness	0.90 mm
Adhesive strength (on steel)	>20 N/2 5mm
Temp. resistance	-40 °C to 80 °C

PE foam adhesive tape, white – Steierform 87-92445
Double-sided adhesive PE foam backing, closed cell, height-compensating, for permanent constructive self-adhesive attachment and bonding, for the installation of mirrors in damp areas, the attachment of type and rating plates, final fixing of profiles, hooks, cableways, etc. among other things.

Thickness	1.60 mm
Adhesive strength (on steel)	16 N/25 mm
Temp. resistance	-40 °C to 90 °C

Pure acrylate adhesive tape, colourless – Steierform 87-95810
Pure acrylate adhesive, high transparency and UV-resistance for high-strength joints, various material thicknesses available, use in temporary and constructive bonding, can also be used for visually appealing tasks, e.g. for panel adhesion or fixing in prototype construction.

Thickness	1.00 mm
Adhesive strength (on steel)	37 N/25 mm
Temp. resistance	-40 °C to 120 °C

Reliable Quality

Double-sided self-adhesive die-cuts are perfect for securely bonding components which can be similar as well as different in material and are therefore indispensable in modern joining technology. For consistently reliable joints and optimal processes, we offer you high-quality, perfectly coordinated self-adhesive solutions.

In addition to high material quality, perfect matching of the die-cuts with the respective application is particularly important here. Our expert advisers and application engineers provide technical advice and design individual customer solutions for all sectors of the industry.

- Many years of experience in the field of self-adhesive technology and manufacturing expertise in die-cuts
- Implementation of various geometries through different manufacturing processes
- User-optimised configuration in small and large batches, pilot production and prototype creation

Solutions in all forms of delivery

The Steierform® products are available in a variety of designs: rolls, sheet material, individual pieces, family sheet, protruding/slotted/perforated liner, peel-open tab/finger lift, non-adhesive areas, positioning guides, through-cutting, removed inlets, information carriers and much more.

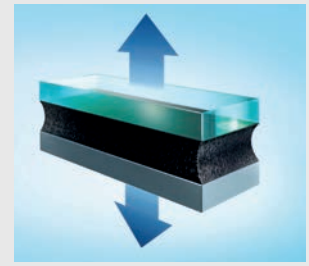
tesa PLATINUM CONVERTER PARTNER

Improved power

For industrial and automotive application, we process adhesive tapes made from acrylic foam from the tesa® ACX^{plus} product family for the highest demands on constructive joints.

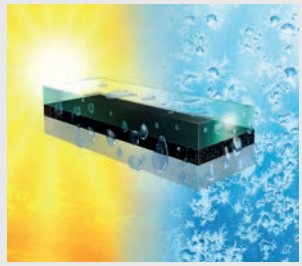
High adhesive strength

- Even for a variety of surface properties
- Optimal wetting and adaptation to the surface
- Irregularities are levelled out by the thickness of the backing



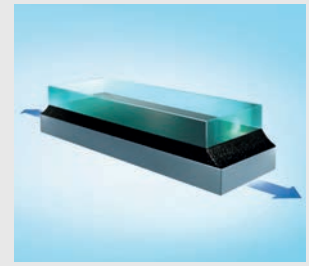
Resistance

- Highly resistant to UV, humidity and weather effects
- Very good oxidation-resistance
- Excellent temperature-resistance



Stress equalisation

- Lasting equalisation of static, dynamic and thermal stress
- Equalises various coefficients of thermal expansion in varying temperature conditions



Acrylic foam tape, deep black – tesa® ACX^{plus} 7805/7808/7811/7812/7815
Black Line – tesa® ACX^{plus} for automotive and industrial applications
Viscoelastic acrylic foam for permanent joints for outdoor use. The exceptional cold crack resistance ensures reliable bonding even at extremely low temperatures, available in various material thicknesses.

Thickness in mm	0.5/0.8/1.1/1.2/1.5
Adhesive strength (on steel)	≥ 52.5 N/25 mm
Temp. resistance	-40 °C to 80 °C

Acrylic foam tape, grey – tesa® ACX^{plus} 77708/77711/77715 and 77808/77811/77815
Primerless Line – tesa® ACX^{plus} for automotive and industrial applications
Viscoelastic acrylic foam for permanent joint on LSE surfaces (low surface energy) with no substrate pre-treatment, various material thicknesses available. The tesa® ACX^{plus} range offers excellent bonding properties on various OEM clear varnishes.

Thickness in mm	0.8/1.1/1.5
Adhesive strength (on PP)	≥ 75 N/25 mm
Temp. resistance	-40 °C to 80 °C

Steierform®

innovative self adhesive technology

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IATF 16949
ISO 14001

We do everything to make you feel secure

A die-cut must fit precisely in production and hold reliably in practice. In order to play it safe, we offer you wide-ranging support and comprehensive testing opportunities.

Steierform® sample box

Die-cuts made from various materials to do your own testing. You designate your requirement profile – we equip the sample box!

Sample service/jet cutting

With our jet cutting system, we offer you a special service for flexibility and product reliability. Inspection and reference samples as well as initial samples, pilot production or small batches for test runs prior to production can be produced with little effort in terms of time and costs. Examine your product even before the beginning of series production – with no tooling costs! Adjustment errors in series production are thus prevented. Various material qualities can likewise be tested in order to thus make the best choice for your application.

Ask us – we are happy to provide advice on the various possibilities for sampling and preliminary tests!

Always well advised!

Our product experts and application engineers offer you comprehensive support for your tasks in designing self-adhesive solutions.

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Just do it right

For the best and reliable results, you can find valuable information, tips and background knowledge concerning the right application on our website:

Simply scan the QR code and get straight to the processing guidelines

Steier

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