

Three white, three-bladed wind turbine models are placed on a wooden desk. In the background, a man with a beard is sitting at a desk, working on a laptop. There are also some rolled-up documents on the desk to the right of the turbines.

ENGINEERED TAPE SOLUTIONS

Blade Manufacturing Industry

EFFICIENT SOLUTIONS FOR DESIGN AND MANUFACTURING



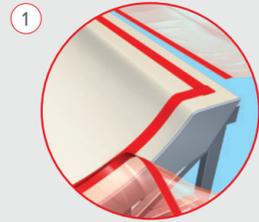
A reliable partner for the wind industry

We are one of the leading global manufacturers of self-adhesive tapes. Our product solutions prove their performance in applications for various industrial sectors around the globe. Specifically for wind industry we understand the challenges from design and manufacturing. We are by your side to choose reliable materials, reduce cycle times, minimize rejects and care for robust and simple manufacturing processes.

Benefits from working with tesa:

- Wide assortment of high quality adhesive tapes
- Project related technical consulting
- Global presence with a dedicated team
- Innovation partner

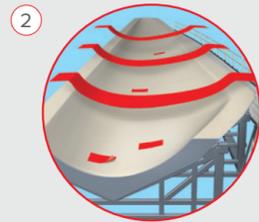
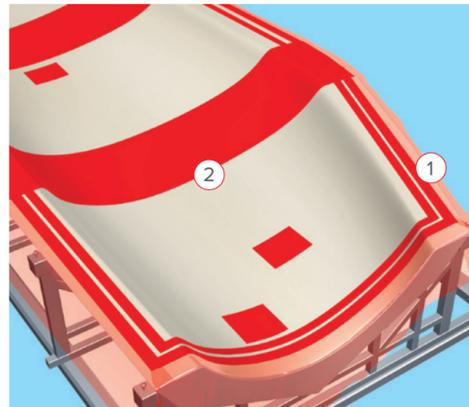
Mold Preparation



Mold masking

Good masking tapes stick well to the mold, do not tear during removal or leave residues. This leads to a faster process.

tesa® 4309
tesa® 50600
tesa Easy Cover® 4368



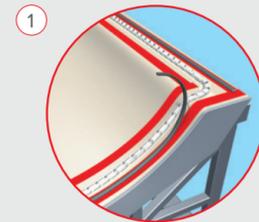
Mold release

Our premium mold release tapes replace liquid release coats, when it comes to e.g. main mold repair, flat molds or mold edges. Once applied, they reduce the mold preparation time and enable shorter cycle times.

tesa® 4800, tesa® 4820

- Speciality PTFE backing allows for a high number of molding cycles
- Clean removal after use
- Optimized handling properties

Lay Up and Infusion Process

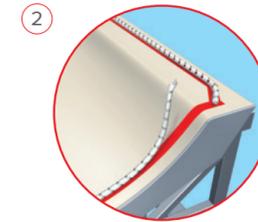
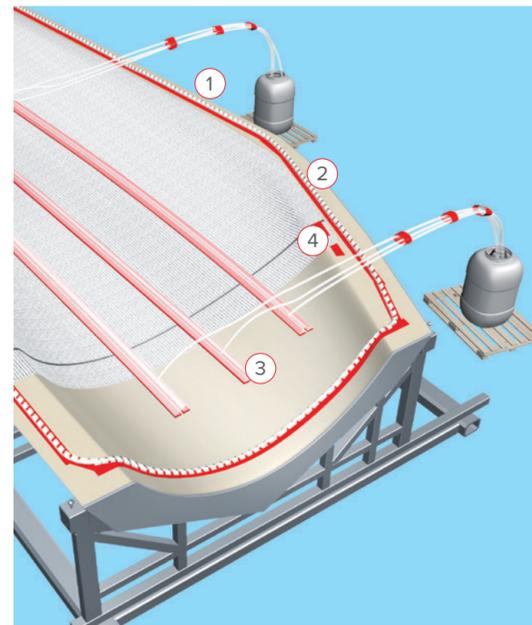


Flash breaker tapes

Our range of single-sided PET tapes with silicone adhesive are designed to adhere to release coats. They remove well even if exposed to high temperature. Proven for masking and protecting the mold from flashed resin or residues of tacky tape.

tesa® 50650, tesa® 50600

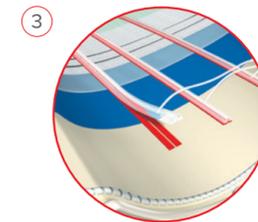
- Strong polyester backing
- Versatile adhesive for various surfaces



Holding of vacuum spirals

tesa® 51960

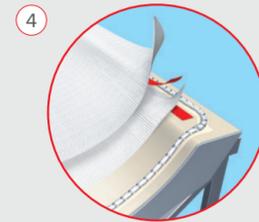
- High immediate adhesion
- Good removability



Fixation of resin infusion profiles

tesa® 4970

- High immediate adhesion
- Temperature resistant
- Trusted solution in blade production



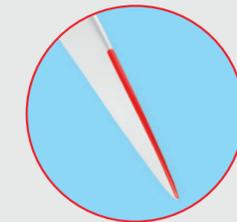
Layer fixation

During the lay-up process our double-sided adhesive tapes are used to fix different layers to the mold or to each other. Choose from our assortment based on your requirements for adhesion, removability and temperature resistance.

tesa® 4965, tesa® 4970, tesa® 64621

- Double sided tapes with great workability
- Choice of adhesives for optimal result

Rotor Blade Finish



Leading edge protection

Test tesa® 52994 for leading edge protection. It features excellent optical and mechanical properties after severe weathering and UV exposure. Maintenance and blade repair companies benefit from an easy removal process.

tesa® 52994

- Premium protection against rain erosion
- Highly resistant against UV ageing



Blade add-on parts

For exterior attachment parts such as vortex generators or trailing edge serrations our high performance bonding tapes give a reliable bond. Compared to liquid adhesives, tapes provide a fast and simple process and help increase blade output.

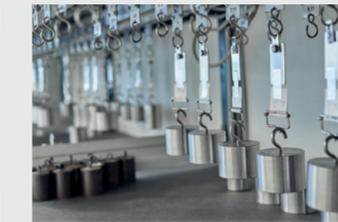
tesa® ACX^{plus} 707x series

- High bonding strength
- Stress-relaxing properties
- Resistant to weathering and ageing
- Adhesion promoters available

Project related consulting

Every project comes with new challenges especially when considering material inputs. Choosing the right material is critical for performance in the field and during robust processes. Save time and eliminate stress with our technical support team.

- Dedicated application engineers
- Climate storage, artificial ageing of materials
- Adhesion and bonding strength measurements
- Advisory for optimal application process



Trusted Products for Blade Manufacturing

Application	Product	Backing	Adhesive type	Color	Thickness [μm]	Adhesion to steel [N/cm] ²⁾	Temp. resistance [°C] (short/long term) ³⁾
Single-sided tapes							
Leading edge protection	tesa® 52994	PU film	Pure acrylic	Clear	360	8.7	140 / 90
Mold release	tesa® 4800	PTFE cloth	Silicone	Blue	175	5.5	260 / -
	tesa® 4820	PTFE film	Silicone	Blue translucent	100	2.5	250 / -
Mold masking	tesa® 4309	Creped paper	Natural rubber	Brown	170	3.5	120 / -
	tesa® 4334	Flat paper	Acrylic	Yellow	90	1.9	120 / -
	tesa® 4368	2-in-1 design	Natural rubber	Brown	140	3.4	80 / -
Flash breaker, masking	tesa® 50600	PET film	Silicone	Green translucent	80	4	220 / -
	tesa® 50650	PET film	Silicone	Blue translucent	55	3.3	220 / -
Outdoor masking	tesa® 4843	PVC film	Natural rubber	Orange	122	1.2	70 / 50
Hole covering	tesa® 4657	Acrylic coated cloth	Natural rubber	Grey	290	4.6	180 / -
Masking, bundling	tesa® 4688	PE coated cloth	Natural rubber	Various	260	4.5	110 / -
	tesa® 4613	PE laminated cloth	Natural rubber	Black, white, silver	180	4.3	95 / -
Warning tape	tesa® 60760	PVC film	Natural rubber	Various	150	2	70 / -
Anti-slip	tesa® 60950	Sanded PVC	Tackified acrylic	Various	810	5.8	70 / 50
Double-sided tapes							
Temporary fixation and mounting	tesa® 64621	PP film	Synthetic rubber	Transparent	90	15	80 / 40
	tesa® 51960	PP film	Pure acrylic / Tackified acrylic	Translucent	248	6.6 / 13.7 ⁴⁾	120 / 60
	tesa® 4970	PVC film	Tackified acrylic	White	225	13.6	70 / 60
Permanent bonding	tesa® 4965	PET film	Tackified acrylic	Transparent	205	11.8	200 / 100
	tesa® 62936 ¹⁾	PE foam	Tackified acrylic	Black / white	1600	19	80 / 80
	tesa® 7076 ¹⁾	Foamed acrylic	Pure acrylic	Black	1500	35	220 / 120

¹⁾ Thickness variants available

²⁾ Initial peel adhesion for single-sided, ultimate for double-sided tapes

³⁾ Test methods vary according to product category and are typical values

⁴⁾ Different initial peel adhesion on open side and covered side



tesa® 60950

- Anti-slip properties according to DIN 51130
- MPA Darmstadt: Report K 17 0569

tesa® 52994

- Material properties after ageing
- SGS-CSTC Shanghai: Report SHAEC1613541001

tesa® 52994

- Rain erosion test
- IWES Bremerhaven: Report FhGReport_TESA_2016-06-16

tesa® products prove their impressive quality day in, day out in demanding conditions and are regularly subjected to strict controls. All technical information and data above mentioned are provided to the best of our knowledge on the basis of our practical experience. They shall be considered as average values and are not appropriate for a specification. Therefore tesa SE can make no warranties, express or implied, including, but not limited to any implied warranty of merchantability or fitness for a particular purpose. The user is responsible for determining whether the tesa® product is fit for a particular purpose and suitable for the user's method of application. If you are in any doubt, our technical support staff will be glad to support you.



07/2017



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