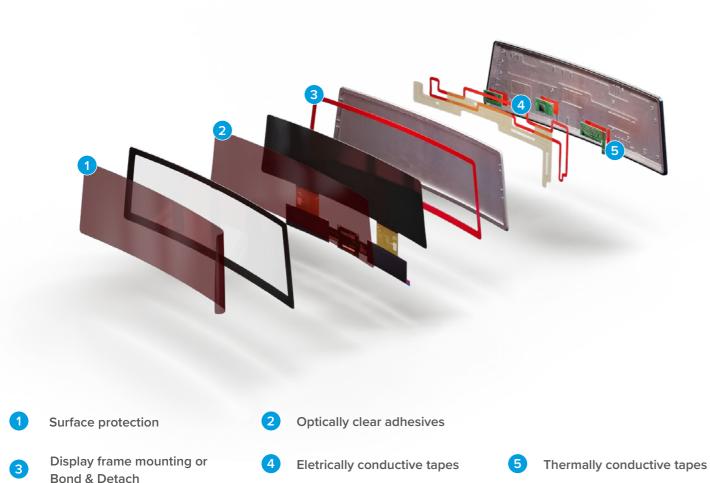


Adhesive solutions for new display designs

Your development partner for the future of connected automotive interiors

Are you shaping the future of Human Machine Interfaces (HMI) in the automotive sector and looking for a global partner who can support you with reliable, cost-effective, and contemporary products?

We enable reliable and efficient production processes for next generation HMI. Regardless of whether you're dealing with a large curved display, a head-up display, or a smart surface, we offer a variety of adhesive-tape solutions that will allow you to create the interior designs and shapes of the future. Our products are constantly adapted to new OEM requirements and trends. Take a look at the different applications we support.



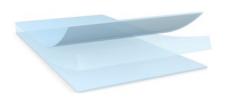
Optical display integration

tesa's optically clear adhesives (OCA), designed for automotive applications, improve the light transmission, reduce reflection and improve shock absorption as well as stress relaxation. The result is a high quality, easy to read automotive display with sharp images. OCA can be used for various substrates like glass, plastics or decorative films.

tesa is your preferred partner if you want to further improve your display optical bonding process. We can bring our experienced engineers and partners together to consult you. With OCA tapes a fast and reliable production process is achievable, compared to liquid or hybrid alternatives. Especially when curved, not rectangular or seamlessly integrated displays are designed. Automotive display assemblers select

OCA because of the significantly reduced process complexity and the reduced number of process steps.

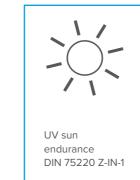
Our solution for integrating sensitive OLED displays is our OCA 88910. This OCA integrates a UV blocker additive, offering display protection against UV light while reducing the number of layers or process steps required to construct the display. This reduction results in financial and time savings, providing a more cost-effective solution for manufacturers

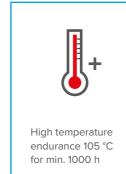


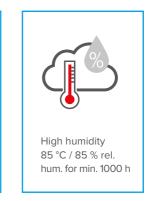
What are you looking for:

| Product | tesa® 887xx | tesa® 880xx | tesa® 699xx | tesa® 889xx |
|--------------------------|----------------------|------------------------------|-----------------------|---|
| Feature | Gap Filling | Outgassing resistance | Outgassing resistance | UV block |
| OCA Type | PSA | PSA | UV cure | PSA |
| Thicknesses [µm] | 200, 250, 300 & 500 | 50, 100, 150, 200, 250 & 300 | 50, 100 & 150 | 250 |
| Focus cover material | Glass | Plastics | Plastics | Glass |
| Focus display technology | LCD | LCD | LCD | OLED |
| Maximum display size | > 20" with 500 μm | 12" | 12" | 18" |
| tesa® differentiation | Wide thickness range | Outgassing resistant | Outgassing resistant | Automotive standard with UV block feature |

Our OCAs pass all crucial automotive environmental tests, like:









Scan this code or klick **here** for further information

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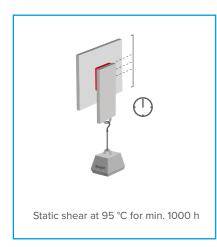
Human Machine Interface 3

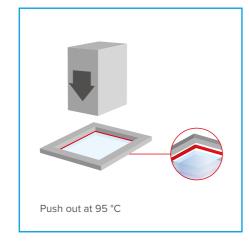
Tapes for secure mounting

Our automotive display mounting solutions are developed to meet the requirements of the next generation of automotive displays such as large and curved shapes and smartphone-like narrow edges and frames. This means that the mechanical load needs to be carried in a continuously smaller area under increasingly demanding environmental conditions. In response, we have developed a tape assortment tailored to the automotive safety requirements created out of PE foam and acrylic foam technologies.

| Product | tesa® 78xx | tesa® 6105x | tesa® 707x | tesa® 625xx |
|-------------------------------|---|---|---|---|
| Key characteristics | Approved in most OEM value chains with superior push out resistance | Allrounder with well-balanced performance profile | Excellent for zero slipping even at high temperature applications | Well-balanced alternative for small devices and high cap filling requirements |
| Focus application | Embedded display designs | Free floating display designs | Free floating display designs | Embedded display designs |
| Available thickness [µm] | 500, 800, 1100, 1200, 1500 & 2000 | 300, 350 & 400 | 500, 1000 & 1500 | 500 & 800 |
| Puch out resistance @ 95° | ••• | •• | • • | •• |
| Static shear resistance @ 95° | •• | •• | ••• | • |
| Light blocking | Yes | Yes | No | No |
| Adhesive type | Acrylic foam | Acrylic foam | Acrylic foam | Acrylic foam |

Our mounting tapes pass all crucial automotive environmental tests, like:







Debonding on demand

With tesa® Bond & Detach we ensure secure bonding over the lifetime of a car and make high-quality electronic components removable and therefore more sustainable. tesa® Bond & Detach is already being used successfully in over 2 billion smartphones. Now it is available for the automotive market enabling simple and residue free reworking of high value components. In addition we enable repairing and recycling with tesa® 76565.

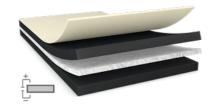


| Product | tesa® 7655x | tesa® 76565 |
|---------------------|---|--|
| Key characteristics | This Bond & Detach tape offers strong holding power together with easy rework feature | This Bond & Detach tape offers strong holding power and the opportunitiy for rework, reuse and recycling |
| Debondability | Rework | Rework, reuse, recycle |
| Thickness [µm] | 250 & 500 | 500 |
| Holding power hot | ••• | •••• |
| Aging stability | •• | •••• |
| Peel adhesion | •••• | ••• |

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Grounding and shielding solutions

With more and more electrical devices being integrated in cars it is getting more challenging to ensure that the different units do not interfere with each other and additional hand-held devices. To guarantee the functionality of each component, we offer a wide range of electrically conductive tapes (ECT), enabling grounding and shielding solutions. When developing ECTs we can find the right trade-off between adhesive performance such as peel off force and the electrical conductivity for your task. Moreover, we can integrate special electrically conductive foams into the tape stack up, providing additional gap filling features.



| Series | tesa® 6037x | tesa® 6025x | tesa® 6038x | tesa® 6036x |
|---|---|--|---|--|
| Feature | Excellent grounding performance at small bonding area | High adhesion level even at harsh environmental conditions | Good electrical conductivity and high bonding performance | Excellent grounding performance with high bonding strength |
| Available thickness [μm] | 30, 50 & 100 | 55, 70, 200 & 250 | 50 & 100 | 50 & 100 |
| Contact resistance [Ohm / inch ²]* | 0.01 | 0.05 | 0.06 | 0.01 |
| Adhesion to steel [N/cm]* | 5.1 | 7.6 | 10 | 9 |
| Color | Black | Gray | Gray | Gray |

^{*} Reference IBNRs: 60371, 60251, 60381 & 6036

Thermal management

With the increasing amount of chips in smaller package spaces, the demand for easy-to-apply thermal management solutions has also increased. tesa® thermally conductive tapes set up a reliable heat transfer path when mounted between the heat source and heat sink.



| Series | tesa® 6073x | tesa® 6074x | tesa® 5832x |
|--------------------------------|--|--|--|
| Feature | Lamination/mounting, very good bonding/wetting, good conductivty | Lamination/mounting, very good bonding/wetting, good conductivty | Gap filling, great conductivity, very good electrical insulation |
| Available thickness [µm] | 50 | 10, 30, 50 & 100 | 1200, 1500 & 2000 |
| Thermal conductivity [W/mK]* | 0.7 | 1.0 | > 2.0 |
| Thermal impedance [Kcm²/W]* | 1.6 – 1.8 | 0.6 – 1.1 | 5.6 – 9.6 |
| Peel adhesion to steel* | 4.7 | 4.5 | 0.5 |

^{*} Reference IBNRs: 60732; 60745; 58326

Temporary surface protection

To ensure scratch free delivery of display components from supplier to end user, reliable surface protection is important. We offer a focus portfolio of transparent protection films that are easy to remove despite typical automative aging conditions.

| Product | tesa [®] 66514 | tesa® 50551 PV1 | tesa® 4848 PV1 |
|---------------------------------------|---|---|--|
| Key characteristics | Premium display protection tape with excellent long-term aging stability and easy peeling | Excellent long-term aging stability and very low electrostatic properties | Surface protection standard tape for general purpose |
| Available thicknesses $[\mu m]$ | 40 | 70 | 48 |
| Residue free removability after aging | Yes | Yes | Yes |
| Optical Properties after aging | •••• | •••• | • |
| Adhesion to glass [N/cm] | 0.1 | 0.9 | 0.9 |
| Electrostatic potential [kV] | < 6 | < 2 | < 5 |

All products are not produced under clean room conditions and do not have antistatic treatments. Test conditions for residue free removability after aging and optical properties after aging: 7d at RT, 300h at PV 1200 and ISO 4892-2.

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Certifications

Our company is focused on international quality, environmental, and occupational safety standards.

Please find more information regarding our certifications at: www.tesa.com/certifications

tesa SE

Phone: +49 40 88899 101 tesa.com/company/automotive