

Enabling the future of consumer electronic devices

# About us Contents



## Qualified experience and individual support

As a leading adhesive manufacturer in the electronics industry, we offer a wide range of customized adhesive tapes for smartphones, tablets, and other electronic devices. We work continuously to develop new products to better serve you and your customers in this fast-moving and innovative industry.

You and your suppliers are our priority. Our team of experts — from sales offices, R&D centers, and manufacturing facilities — is available globally to support you locally. In particularly, our Customer Solution Center with its technical experts is there to offer you the individual support you need. Our state-of-the-art facility with extensive equipment is at your disposal to find the adhesive solution for your needs.

ntroduction	
our complete partner	4
apes for your success	6 – 1
Dur commitment to sustainability	12 – 13
Mounting solutions	
Structural bonding solutions	14
Heat-activated films	14 – 15
ow-temperature reactive films	14 – 15
ight-curing tapes	14 – 15
3ond & Detach®	16
Stretch-release tapes	16 – 17
Foam tapes	18
Acrylic foam tapes	18 – 19
PE foam tapes	20 – 21
Pouble-sided film tapes	22
ligh performance profile	22 – 23
Specialized performance profile	24 – 25
Balanced performance profile	26 – 27
functional solutions	
Covering tapes	28
Covering tapes	28 – 29
Electrically conductive solutions	30
Pouble-sided electrically conductive tapes	30 – 3
Single-sided electrically conductive tapes	32 – 33
Single-sided electrically conductive foam tapes	34 – 35
Thermal management tapes	36
hermal management tapes	36 – 37
Display lamination solutions	
Optically clear adhesive tapes	38
Optically clear adhesive tapes	38 – 4
Global presence – Contacts	42 – 43

2 About us Contents 3

# Your complete partner

#### Solutions that go beyond tape

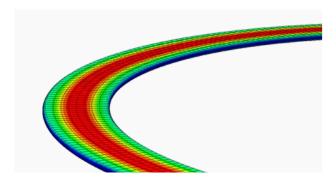
Every project comes with new and individual challenges. We overcome these challenges by partnering with you to create unique and specialized products that meet and exceed your customers' expectations. Our capability goes beyond tape, as we also offer a comprehensive technical product package.



#### Our labs and technical experts

With our extensive experience in adhesive technology, we have developed a large portfolio of adhesive products for electronics applications.

Our technical experts will support you throughout your entire product development process and help you find the optimal solution for your requirements.



#### Finite Element Analysis (FEA)

FEA is a critical tool in the design and optimization of products, allowing engineers to predict the behavior of materials and components under various conditions. At tesa, we have developed significant expertise in material modeling and FEA. This enables us to offer our customers detailed virtual insights into the performance of our adhesive solutions.

Our FEA capabilities extend across a wide range of applications, where we support our customers in stress analysis, thermal simulations, and dynamic modeling. Using accurate predictions will help optimize product designs, reduce costs, and enhance reliability. We leverage state-of-the-art and advanced modeling techniques to deliver precise simulations that reflect real-world conditions.

By integrating FEA into your development process, you can ensure that our adhesive tapes meet the highest standards of performance and durability in your applications.

If you are interested in material modeling and FEA, please contact our sales representative.



#### On-site support

We provide individual project support backed up by application engineers and research and development resources. Our technical experts in our Customer Solution Center offer on-site support and evaluation of your individual application under laboratory conditions.



#### Contact us

Our local experts and engineers are just a phone call away to support you with:

Process-simulation studies
Assistance at your manufacturing site
State-of-the-art testing equipment
Tests under a wide range of environmental conditions
Customized tests with customer substrates

Contact us and benefit from a strong partnership.

4 About us 5

# Tapes for your success

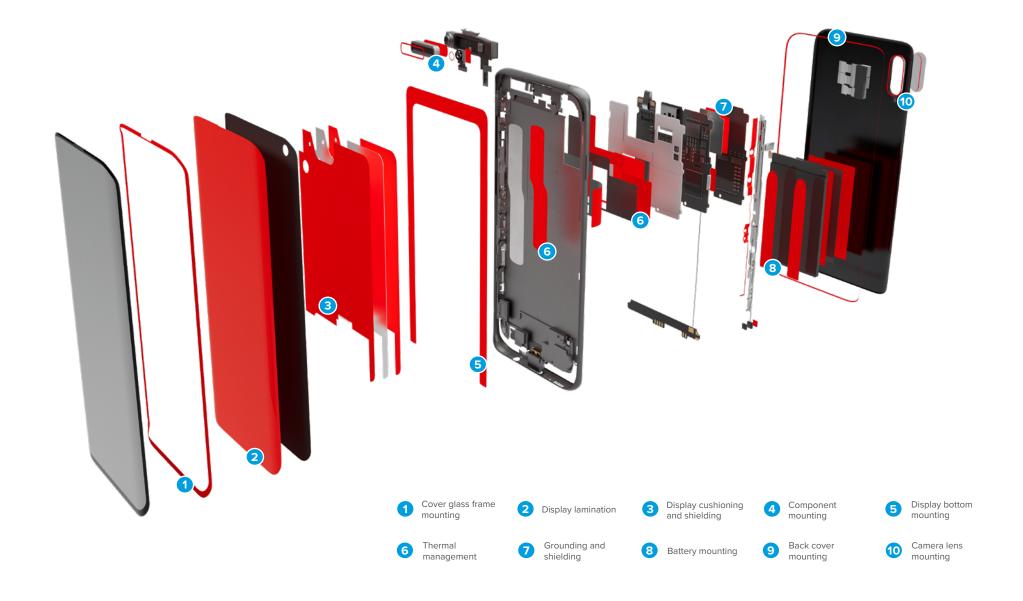
#### Comprehensive tape solutions for electronic devices

Our extensive expertise in tape application within the electronics sector empowers us to provide exceptional support and guidance in selecting the finest tape solutions for your needs.

We are committed to enhancing your product development from start to finish. By prioritizing your needs and those of your suppliers, we ensure personalized and dedicated service. Our mastery in tape applications equips us to offer you the best in adhesive tape solutions, staying abreast of the latest innovations and market technologies in electronics. This enables us to supply a diverse array of specially designed adhesive tapes for smartphones, tablets, and other electronic devices.



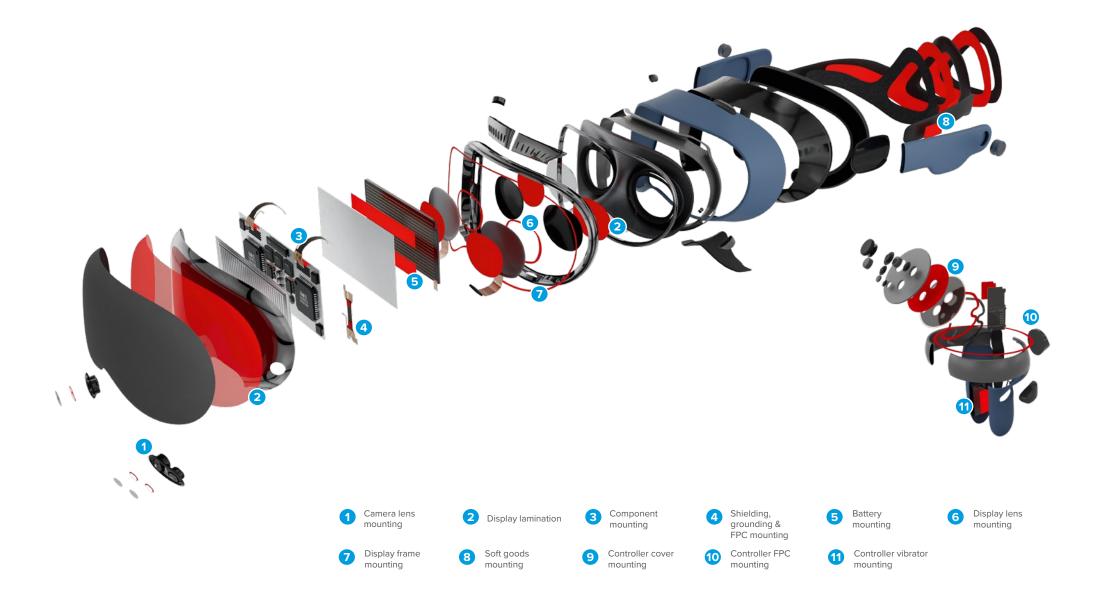
## Tapes for your success – Smartphones

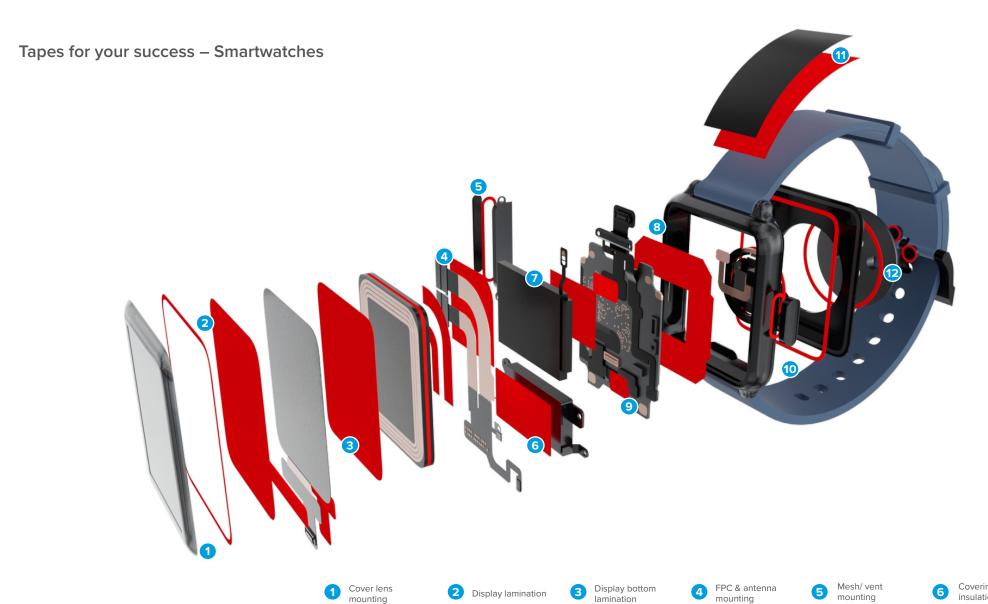


## Tapes for your success – Foldable smartphones



## Tapes for your success – AR/VR device



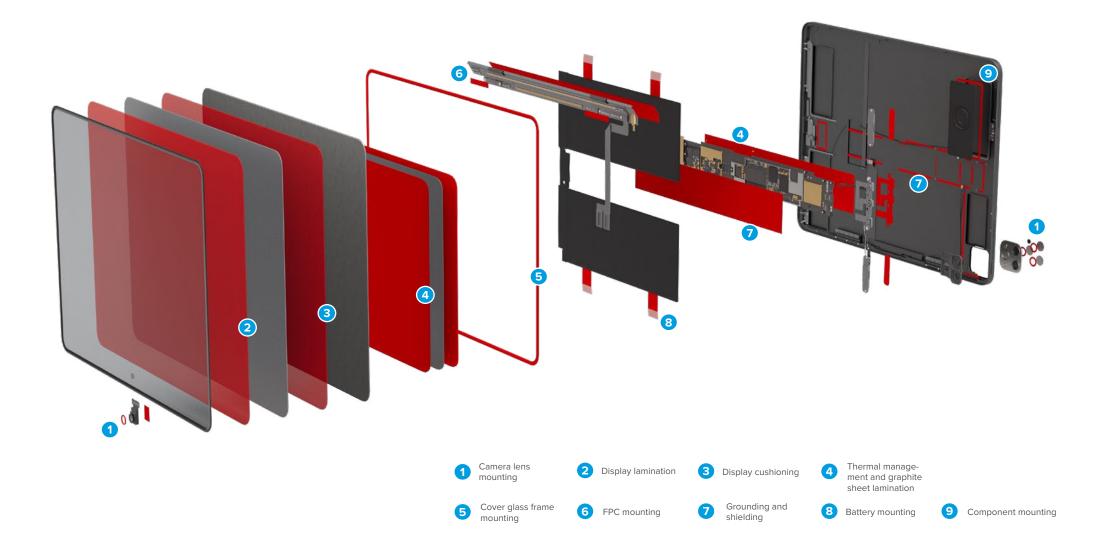


- Cover lens mounting
- 2 Display lamination
- Display bottom lamination
- Side key mounting
- Mesh/ vent mounting
- Covering and insulation

- Battery mounting
- Grounding and shielding
- Thermal management

- Soft goods mounting
- Back cover / sensor lens mounting

## Tapes for your success – Tablets





#### Sustainability and performance go hand in hand

At tesa, we believe that quality, innovation, performance, and sustainability all go together in this journey. Therefore, our assortment does not compromise the reliability and state-of-the-art bonding capabilities our customers rely on. By aligning our products with the needs of our customers, we contribute towards helping them achieve their own sustainability goals.

More than six hundred scientists, engineers, and product developers at tesa are exploring ways to improve the sustainability of our products. We are expanding our use of recycled and biobased materials across all our solutions, for example our assortment of foam, film and electrically conductive tapes for consumer electronic applications.

Given the strong push by the EU on repairability and waste reduction in consumer electronics, it has become increasingly important to be able to dissemble and rework devices. tesa's "Debonding on Demand" has the potential to cut waste, boost recycling, enable product repairs and promote a circular economy across industries.

Want to know more about sustainability at tesa? Klick the QR code!







Reduce emissions



Tackling the global climate crisis and accelerating positive change are central elements of our commitment. Our mission to reduce global emissions includes upstream and downstream processes as well as our own production.

We record, consolidate, and analyze our energy consumption in accordance with the guidelines of the Greenhouse Gas Protocol. Green energy is a key pillar of our commitment. Since 2020, we have sourced 100 percent of our purchased electricity from renewable energy sources.

Additionally, we are progressing towards carbon neutrality in our plants by investing in measures to increase green fuel consumption. For example, tesa plant Hamburg is to be connected to the hydrogen network, which will save around 6,000 metric tons of  $\mathrm{CO}_2$  per

Source responsibly



Responsible procurement is the first step in the life cycle of a sustainable product.

We want to ensure that fair working conditions and human rights as well as environmental protection are in place in the supply chain. To do this, we strictly enforce supplier traceability and high transparency of our value chain: certifying our raw materials, evaluating suppliers and participating in associations.

tesa is a recognized CDP A for climate and EcoVadis Gold supplier, showcasing our efforts in the area of climate protection, responsible production and supply chain transparency. Rethink materials



tesa has set itself the goal of significantly increasing product sustainability and is working on this every day.

Over the last years, we have developed and launched a wide assortment of more sustainable products for the eletronics sector, and we are working on many more. In doing so, we are focusing on the reduction of non-recycled fossil plastics and will increasingly use recycled and bio-based materials.

We have a comprehensive carbon footprint database, and we are continuously improving our data quality. Additionally, we conduct external life cycle assessments to ensure a science-based approach Push circularity



tesa will contribute to the circular economy and use resources as carefully as possible. First and foremost, this involves avoiding waste. Whenever this is not possible, we reduce it. If waste is unavoidable, we seek to reuse or recycle it by various means.

Since 2023, we have made significant progress in reducing plastic film liner usage and initiated pilot projects with customers to collect and reuse plastic end-wall covers for log rolls. Thanks to this, we are recovering approximately 165 000 end-walls from customers

Support customers



Our versatile building blocks empower customers to improve reworkability in production, enhance repairability throughout the lifespan of devices, and achieve optimal recyclability after their life cycle.

tesa is at the forefront of revolutionizing the industry with our groundbreaking "Debonding on Demand" adhesive tapes: tesa® Bond & Detach has set a solid foundation for more sustainable and efficient manufacturing processes.

The intelligent and innovative tapes deliver on the promise of permanent and secure adhesive bonds, but can be removed without leaving any residue. This opens up completely new possibilities also in terms of increasingly sustainable industrial design.

12 Introduction – Our commitment to sustainability 13



#### The best reliability for the toughest demands

tesa® structural bonding solutions provide high bonding performance to a wide variety of substrates. They withstand the harshest conditions by combining outstanding chemical and aging resistance. The processing of these adhesive systems is simplified due to excellent die cuttability, immediate handling stability after activation, and low oozing.

#### Heat-activated films

tesa HAF® is a thermosetting adhesive system. An irreversible cross-linking reaction is initiated by heat and pressure starting at temperatures above 120°C, resulting in extremely strong bonds.

#### Low-temperature activated films

Our low-temperature reactive films tesa® LTR and tesa® LTC have been designed for activation at moderate temperatures. The cross-linking starts at a bond-line temperature above 75°C.

#### **Light-activated tapes**

tesa® UV epoxy and tesa® L-tape are our latest developments that will cure at room temperature when exposed to light. They achieve significantly higher bonding strengths compared to PSAs. They come with high initial tack and immediate holding strength after bonding.







resistance





resistance

resistance

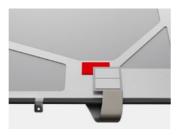
#### Typical applications



Component mounting







Cover lens mounting Soft goods bonding

FPC mounting

#### Assortment overview

		Heat-activated films	Low-temperature	activated films	Light-activ	ated tapes
		tesa® HAF®	tesa® LTR	tesa® LTC	tesa® UV epoxy	tesa® L-tape
Desig	n					
Color		Black, amber	Black, white, translucent	Black	White	Translucent
Adhes	sive	Nitrile rubber/phenolic resin	Cross-linkable polyurethane	Cross-linkable polyurethane	Light curable	Light curable
Activa tempe	tion erature [°C]	>120	>75	>75	Room temperature	Room temperature
Specia featur		Temperature resistance, chemical resistance	Impact resistance, wettability on fabrics	Impact resistance, chemical resistance	Activation at room temperature, reworkability	Activation at room temperature, impact resistance
	10 μm	● 58469				
	20 μm	● 58477				
	25 μm			● 58720		
	30 μm	• 58471 • 8471	0 8711			
	50 μm	● 58470	● 58480 ○ 8710 ○ 8722	● 58722		0 8692
ess	60 μm	• 8472				
Thickness	80 μm	● 58473				
	100 μm	● 58474 ● 8474	● 58484 ○ 8714	● 58724	0 8684	O 8694
	125 μm	<ul><li>58475</li><li>8475</li></ul>				
	150 μm	<ul><li>58476</li><li>8476</li></ul>	● 58486			
	200 μm	● 58478 ● 8478	● 58488			Q 8698
	250 μm			• 58729		
	300 μm		● 58489			
	Reference product	● 58474	● 58484	● 58724	O 8684	0 8694
Ø U	Reference substrate	SUS/SUS	PC/PC	Al/Al	PC/PC	AI/PC
rforman	Push-out [MPa]	>9.0	>5.5	>4.0	>2.5	>3.0
Product performance	DuPont [J; xy/z]	>0.5	>4.0	>1.0	>0.5	>1.0
Pro	Reliability*	••••	•••	••••	•••	•••
	Chemical resistance*	••••	••	•••	••	••

<sup>\*</sup> Assessment is done in relation to other products in this assortment

● Amber ⊙ Translucent ⊙ White ● Black

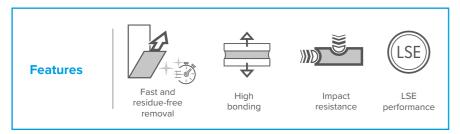
<sup>\*\*</sup> Deviating thickness



#### Stretch-release tapes for residue-free removability

Our Bond & Detach® solutions have revolutionized the removability of adhesives. This tape enables the permanent mounting of components with the option of removing them without residues. Bond & Detach® uses a unique adhesive technology for demanding bonding applications, that can be removed without leaving any residue by stretching it.

The patented technology was developed by tesa and offers the possibility of simple and secure debonding during the entire product life cycle – from production to end of life. It can also be used for temporary fixation during production processes or transportation. In addition, the whole assortment provides good impact resistance and bonding strength, even on LSE substrates.



#### **Typical applications**



Battery mounting in mobile devices



Removable mounting of devices or accessories



Temporary fixation of components



Mounting of valuable components

#### Assortment overview

		tesa® 704xx/703 /706xx	tesa® 672xx	tesa® 770xx	tesa® 648xx	tesa® 705xx	tesa® 769xx
De	sign						
Со	lor	White, transparent, black	White	Translucent white	White	White	Black
Ad	hesive	Specialty	Specialty	Specialty	Specialty	Specialty	Specialty
Ba	cking	-	Stretchable PU	Stretchable specialty	Stretchable specialty	-	-
	ecial tures	Bonding strength, easy activation	High impact resistance	Impact resistance, tear resistance	Impact resistance, tear resistance	Anti-repulsion, temp. resistance	Pin tensile streng
	80 μm		0 67208				
	100 μm	o 70410 ● 70610	0 67210	0 77010	o 64810**		
	150 μm	<ul><li>○ 70415</li><li>● 70615</li></ul>	0 67215	o 77015	O 64815 O 64816		
	175 μm			0 77017			
	200 μm	○ 70420 ● 70620			0 64820		
	250 μm	o 70425 ● 70625	0 67225		0 64825	0 70525	● 76925*
	300 μm	<ul><li>○ 70430</li><li>● 70630</li></ul>			0 64830		● 76930
	350 μm	● 70635					
	400 μm	o 70440 ● 70640					
	500 μm	o 70350 ● 70650				0 70550	● 76950
	650 μm	o 70465 ● 70665					
	800 μm	o 70480 ● 70680					
	1,000 μm	o 70499 ● 70699					
	1,300 μm	● 70697					
	Reference product	<ul><li>○ 70415</li><li>● 70615</li></ul>	0 67215	0 77015	0 64815	o 70525*	● 76925*
	Peel SUS adhesion	13.0/13.0	9.0/9.0	10.0/10.0	11.0/11.0	13.0/13.0	13.0/13.0
	[N/cm;initial/ ultimate] PE	7.0/7.0	6.0/6.0	7.0/8.0	8.0/8.0	9.0/9.0	10.0/10.0
	DuPont [J; xy/z]	0.7/0.3	1.0/0.7	1.0/0.7	1.1/0.8	1.0/0.7	0.8/0.4
	Tumbler [cycles]	Upon request	>500	>500	500	Upon request	Upon request
	Removing force [N/cm]	4.0	5.0	4.0	4.0	6.0	5.0

<sup>\*</sup> Deviating thickness

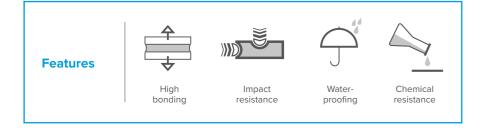
16 Mounting solutions – Bond & Detach® 17

O Transparent ⊙ Translucent O White ● Black

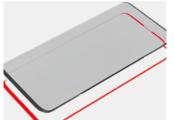


#### For applications with extreme requirements

Our acrylic foam tape assortment is especially designed for demanding applications in the electronics industry and is distinguished by its very special bonding capabilities. The high bonding performance is possible due to the tape's viscoelasticity: elastic and viscous characteristics provide inner strength and relax mechanical stresses. The use of highly innovative technologies and special acrylic adhesive systems together with the viscoelastic nature of acrylic foams create multiple benefits like impact resistance, high bonding strength, and waterproofing for electronic devices for the entire life cycle of the product.



## **Typical applications**



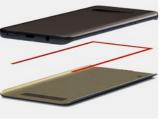
Cover glass frame mounting





Back cover mounting







Display bottom mounting Cover lens mounting

#### Assortment overview

		tesa® 751xx	tesa® <b>754</b> xx/ <b>756</b> xx	tesa® 6108x	tesa® 760xx	tesa® 7588x	tesa® <b>757</b> xx
Des	sign				8		The second secon
Col	or	Black	Black	Black	Black	Black	Black, white
Adl	nesive	Modified acrylic	Modified acrylic	Tackified acrylic	Tackified acrylic (66% bio-based carbon content)	Acrylic	Modified acrylic
Bad	cking	-	-	AC foam	-	-	PET
	ecial tures	Outstanding impact resistance	Outstanding bonding	Easy activation, inner force resistance	Balanced performance, high bio content	Chemical resistance	Balanced performance
	50 μm		● 75405			● 75881	
	100 μm	● 75110	● 75410		● 76010	● 75882	● 75710
	150 μm	● 75115	● 75415 ● 75615		● 76015	● 75883	● 75715
	200 μm	<b>●</b> 75120	● 75620		● 76020	● 75884	● 75720 ○ 75743
SS	250 μm	● 75125	● 75625				● 75725 ○ 75745
Thickness	300 μm	● 75130	● 75630	• 61086			● 75730
	350 μm		● 75635	• 61087			
	400 μm		● 75640	• 61088			
	450 μm		● 75645				
	500 μm		● 75650				
	Reference product	● 75120	● 75620	<b>•</b> 61086	● 76020	● 75884	● 75720
Product performance*	Peel adhesion [N/cm; SUS initial/ ultimate]	13.0/15.0	15.5/17.0	15.5/17.5	11.0/12.0	8.0/10.0	14.0/15.0
Produc	Push-out [N]	300	225	215	120	185	205
-	DuPont [J; xy/z]	1.4/1.2	1.3/1.0	1.6/1.3	1.0/0.8	1.4/1.2	0.9/0.8
	Remov- ability*	••	•	••	••	•	•••

<sup>\*</sup> Assessment is done in relation to other products in this assortment

O White ● Black

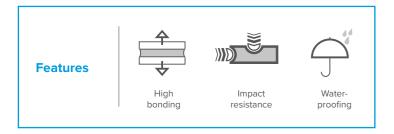
Your partner for codevelopment

We have more options available in our portfolio, and by partnering with you we can create unique and specialized products that meet your individual demands. Simply write to us or contact your local representative: electronics@tesa.com



#### For challenging applications

PE foam tapes have long proven their value to the electronics industry. Certain properties such as impact resistance, bonding strength, and waterproofing are offered by all series in our PE foam range. In this section we present a selection of our PE foam solutions focusing on different series' specific performance features. If you require more information than what we have provided here, please contact your local representative.



## **Typical applications**



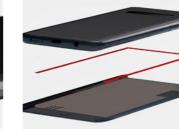
Cover glass frame mounting





Back cover mounting





Camera lens mounting

Display bottom mounting

#### Assortment overview

		tesa® 6208x	tesa® 668xx	tesa® 6368x	tesa® 626xx	tesa <sup>®</sup> 6216x/6218x	tesa® 66425
Des	ign			8		1 B	Section 1
Col	or	Black	Black, white	Black	Black	Black	Black
Adh	nesive	Acrylic	Acrylic	Acrylic	Acrylic	Acrylic	Acrylic
Bac	king	PE foam	PE foam	PE foam	PE Foam (partly with PET reinforcement)	PE foam	PE Foam (with PET reinforcement)
-	cial	Gap closing, shear resistance	Anti-repulsion, impact resistance	Bio-based	Bonding, conformability	Heat removable	Cuttable for rework
	150 μm	● 62082	● 66822				
	200 μm	● 62084	● 66824		● 62624		
	250 μm	● 62085	● 66825	€ 63685	<ul><li>62625</li><li>62645</li></ul>		
	280 μm						● 66425
	300 μm	● 62086	● 66826	€ 63686	<ul><li>62626</li><li>62646</li></ul>	<ul><li>62166</li><li>62183</li><li>62186</li></ul>	
	350 μm	● 62087					
	400 μm	● 62088	● 66828				
	Reference product	● 62086	● 66826	● 63686	● 62626	<b>•</b> 62186	● 66425
	Peel adhesion SUS	11.5/13.5	12.5/14.5	14.0/14.0	13.0/16.0	Provided per request	Provided per request
	[N/cm; initial/ PC ultimate]	11/14.5	12.5/16.0	12.0/12.0	15.0/16.0	Provided per request	Provided per request
	Push-out [N]	220	252	175	180	242	210
	DuPont [J; xy/z]	0.52/0.5	0.88/0.77	0.38/0.43	0.48/0.42	0.62/0.71	0.49/0.47
	Compression force at 25% [kPa]	365	515	375	200	365	320
	Rework- ability*	•••	•••	••	•	••••	•••
	Anti-repulsion*	••••	•••	•	•	•	••

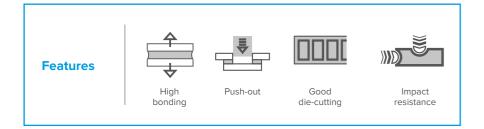
 $<sup>^{\</sup>ast}$  Assessment is done in relation to other products in this assortment

Black



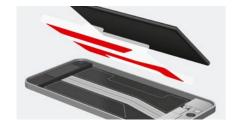
#### High performance profile

Our high performance profile tapes are the spearhead of our film tapes assortment. All series in this category are characterized by superior bonding performance, which is expressed in peel adhesion, push-out and shear resistance, and high impact resistance. This assortment is therefore used for demanding applications like lens and battery mounting. The PET backings used are very well suited to being die-cut.



#### **Typical applications**







Component mounting

Cover glass frame mounting

Battery mounting

		tesa® 613xx	tesa® 618xx	tesa® 6887x	tesa® 6896x
De	sign				
Со	lor	Transparent, black	Black	Transparent	Transparent
Ad	hesive	Tackified acrylic	Modified acrylic	Bio-based acrylic (75% bio-based carbon content)	Specialty
Ва	cking	PET	PET	PCR PET (100% PCR content)	PET
	ecial itures	Push-out resistance, bonding strength	Push-out resistance, impact resistance, LSE performance		Quick bonding, LSE performance
	30 μm			<b>68873</b>	0 68960
	50 μm	<ul><li>61305</li><li>61350</li><li>61358*</li></ul>		<b>68875</b>	0 68962
	100 μm	○ 61360 ● 61361* ● 61365	● 61865	€ 0 68877	O 68964
SS	125 μm	o 61370 ● 61375			
Thickness	150 μm	o 61380 ● 61385	● 61885	<b>⊘</b> 0 68878	
-	200 μm	o 61390 ● 61395	● 61895	<b>68879</b>	
	230 μm	<b>●</b> 61345	<b>●</b> 61845		
	250 μm	● 61325	<b>●</b> 61825		
	300 μm	<b>●</b> 61315	<b>●</b> 61815		
ce	Reference product	● 61365 ○ 61360	● 61865	o 68877	O 68964
Product performance	Peel adhesion [N/cm; SUS initial/ ultimate]	13.7/16.5	11.0/12.0	12.6/12.8	17.0/17.5
Pro	Push-out [N]	230	240	Upon request	255
	DuPont [J; xy/z]	0.5/0.2	0.7/0.3	Upon request	0.7/0.6

 $<sup>^{\</sup>ast}$  Black color tackified acrylic adhesive for improved light blocking performance.

O Transparent ● Black

22 Mounting solutions – Double-sided film tapes 23



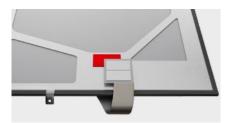
#### Specialized performance profile

With this assortment, we created double-sided mounting tapes with unique adhesives focusing on the special requirements of certain applications in the electronics industry. Each series within this assortment focuses on a specific property needed in the market. In this section, you will find a selection of specialized film tapes. Our capabilities go beyond what is available here. Please contact our local representatives to discuss this further.



#### Typical applications

FPC mounting







Rubber-foot mounting

Our specialized film tape solutions are suitable for applications with a high demand for a certain property like anti-repulsion, differential bonding performance, chemical resistance, reworkability, or light blocking. These tapes are suitable for a wide range of applications, from mounting (e.g. FPC, antenna, keypad, sensor) to processing and packaging applications.

#### Assortment overview

		tesa® 6693x	tesa® 612xx	tesa® 615xx	tesa® 6881x	tesa® 885x
Des	sign					Course to see a constitution of
Col	lor	Transparent	Black	Transparent	Black	Translucent
Adl	hesive	Tackified acrylic	Specialty	Silicone/acrylic	Tackified acrylic	Tackified acrylic
Bac	cking	PET	PET	PET	PET	Non-woven
	ecial tures	Anti-repulsion, easy activation	Chemical resistance	Si/Ac differential, LSE	LSE, high tack, impact resistance	Temperature resistance
	30 μm	0 66930		0 61526		O 8851
	50 μm	o 66932	● 61250	o 61532	• 68812	o 8853 o 8857
	60 μm				<ul><li>● 68811</li></ul>	
S	80 μm				● 68813	
Thickness	100 μm	0 66934	• 61210	0 61528	● 68814	o 8854
=	140 μm			0 61529		
	150 μm		• 61215			
	200 μm		• 61220	0 61520	● 68817	
	250 μm					
e	Reference product	O 66934	<b>●</b> 61210	o 61528	<b>●</b> 68814	O 8854
Product pertormance	Peel adhesion [N/cm; SUS initial/ ultimate]	10.7/11.6	12.4/13.2	Si: 4.0/4.4 Ac: 11.3/12.6	13.5/14.0	8.3/9.5
Pro	Push-out [N]	143	260	Upon request	130	Upon request
	DuPont [J; xy/z]	0.7/0.2	1.1/0.7	Upon request	0.9/0.5	Upon request

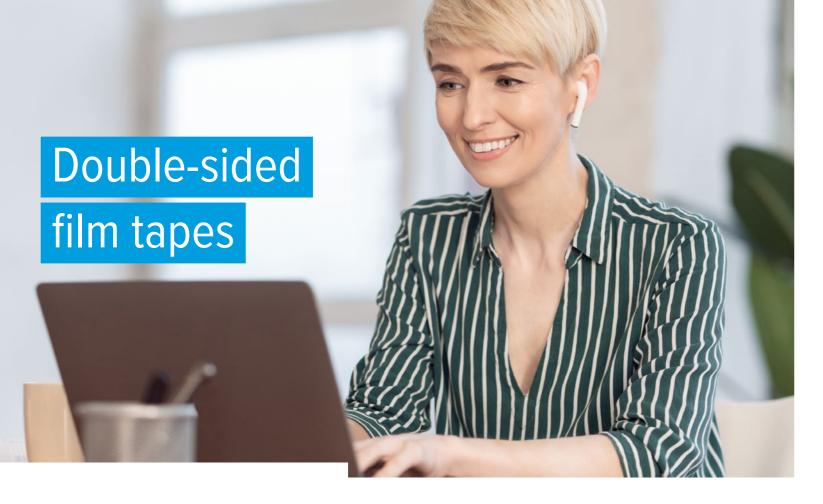
O Transparent • Black O Translucent

Solutions with sustainable contribution

We are continuously increasing our range of products with sustainable aspects to help our customers achieve their own sustainability goals. We are willing to offer products that have the lowest possible impact on the environment throughout their life cycle. The use of recycled and bio-based raw materials plays a particularly important role here. In our product development, we focus on the design and integration of various more sustainable building blocks in order to provide our customers with the greatest possible flexibility in the selection of products. Reach out to us, learn more about this exciting development, and become part of it!

24 Mounting solutions – Double-sided film tapes

Mounting solutions – Double-sided film tapes 25



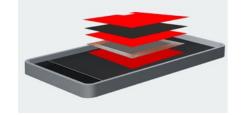
#### Balanced performance profile

tesa® balanced-performance film tapes are a proven solution for mounting and lamination applications in the electronics industry. The balanced adhesive provides very good tack and bonding performance for many general applications. The PET backing enables easy handling of the tape during converting and manufacturing processes. With thicknesses from 5  $\mu$ m to 250  $\mu$ m, this assortment offers you a broad range and excellent flexibility.



#### **Typical applications**





Battery mounting

Graphite sheet lamination

This assortment is widely used in the electronics industry for versatile mounting and lamination applications as well as for cushioning and gasket material bonding.

#### Assortment overview

		tesa® 49xx	tesa® 519xx	tesa® 6854x
Des	sign			
Col	lor	Transparent	Black	Transparent
Adl	hesive	Tackified acrylic	Tackified acrylic	Tackified acrylic
Bad	cking	PET	PET	PET
	5 μm			0 68546
	10 μm			0 68548
	20 μm			0 68549
	30 μm	0 4983	<ul><li>◆ 51983</li></ul>	
	50 μm	0 4972	<ul><li>51972</li></ul>	
ness	80 μm	0 4980	<b>•</b> 51980	
Thickness	100 μm	0 4982	<b>●</b> 51982	
	125 μm	0 4928	<ul><li>51928</li></ul>	
	140 μm	0 4942		
	160 μm	o 4967	<b>•</b> 51967	
	200 μm	0 4965	• 51965	
	250 μm	O 4926	● 51926	
ıce	Reference product	o 4982	● 51982	-
Product performance	Peel adhesion [N/cm; SUS initial/ ultimate]	11.0/11.7	11.0/11.7	-
ď	Push-out [N]	230	230	-
	DuPont [J; xy/z]	0.5/0.2	0.5/0.2	-

O Transparent ● Black

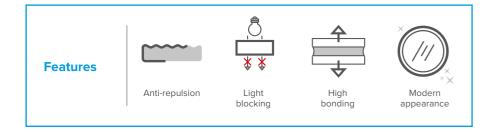
Can't find the right solution?

We have more options available in our portfolio, and by partnering with you we can create unique and specialized products that meet your individual demands. Simply write to us or contact your local representative: electronics@tesa.com



#### More functionality for electronic devices

Electronic components are evolving one generation after the other, just like our solutions for covering tape. Our portfolio consists of polyester and polyimide tapes.



## Typical applications









Light blocking in LCD backlight unit

Insulation on PCB and FPC

#### Assortment overview

		tesa® 79xx	tesa® 799x	tesa® 71xx	tesa® 673xx	tesa® 663xx
Desi	ign		9			
Colo	or	Matte black	Transparent	Black	Matte black	Amber
Adh	esive	Black tackified acrylic	Bio-based acrylic (75% bio-based carbon content)	Black tackified acrylic	Tackified acrylic	Tackified acrylic
Back	king	Polyester	PCR PET (100% PCR content)	Polyester	PI	PI
Spec		Modern design, anti-repulsion	-	Bonding strength, dielectric insulation	Heat resistance, dielectric insulation	Heat resistance, dielectric insulation
	5 μm	● 7905	<b>⊘</b> •7990			
	10 μm	● 7910	€ • 7991		• 67310	
	20 μm	● 7920	€ •7992		<b>●</b> 67320	<b>o</b> 66320
ก	30 μm	● 7930	€ •7993		<b>●</b> 67330	<b>o</b> 66330
- ב	50 μm	● 7950	€ • 7995	● 7250	<b>●</b> 67350	
	60 μm			● 7160		
	80 μm			● 7180		
	100 μm			• 7100		
	Reference product	● 7950	● 7995	<b>●</b> 7250	● 67350	● 66330
	Peel adhesion [N/cm; SUS initial ultimate]	4.0	5.2	4.2	3.5	3.0
ğ	Light blocking [optical density]	5.7	5.7	>6	2.6	n.a.
	Insulation [kV, dielectric breakdown voltage]	5.5	5.2	5.0	3.6	3.6
	Anti-repulsion*	••••		Upon request	••••	••••

 $<sup>^{\</sup>ast}$  Assessment is done in relation to other products in this assortment

● Amber ● Matte/Natural black

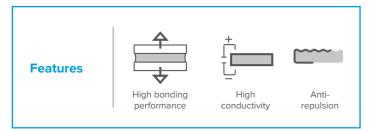
28 Functional solutions – Covering tapes Functional solutions – Covering tapes 29



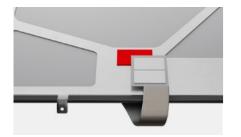
#### For applications requiring grounding

By offering a broad assortment of filled acrylic adhesive systems, with a balance between electrical conductivity and adhesive properties, we are able to provide the best solution for your requirements. Simply decide what is the most important for your application: bonding performance, conductivity, or a balance of both.

Our double-sided tapes are available with two different backings. The woven backing offers a higher tear resistance, very good dimensional stability, and better reworkability, while the nonwoven backing provides faster wetting, excellent conformability, and very good die cuttability.



## **Typical applications**





FPC grounding Component grounding

#### Assortment overview

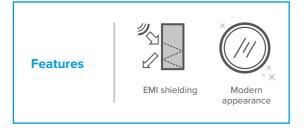
		tesa® 6025x/6026x	tesa® 6036x	tesa® 6037x	tesa® 6038x	tesa® EC HAF 5845x	tesa® 6066x	tesa® 60250
							2	
Des	sign		1		+[-]-		+[]	Ė
Col	or	Gray	Gray	Black	Gray	Black	Gray	Gray
Adh	nesive	Conductive acrylic	Conductive acrylic	Conductive acrylic	Conductive acrylic	Conductive structural adhesive	Conductive bio-based acrylic	Conductive acryli
Bac	king	Woven, non- woven	Woven	Woven, non- woven	Woven, non- woven	-	PCR PET conductive fabric	Woven
	ecial tures	Balanced properties	High bonding strength, high conductivity	Outstanding conductivity	Outstanding bonding, repulsion resistance	Heat-activated structural bonding film, temperature and humidity resistance	Balanced properties	High appearance quality
	17 μm	● 60267						
	25 μm	<b>©</b> 60261						
	30 μm			• 60371	● 60380	• 58451		● 60250
	35 μm	● 60260						
	50 μm	● 60262	● 60362	● 60372	<ul><li>● 60381</li><li>● 60386</li></ul>	● 58452	€ 060665	
)	55 μm	● 60251 ● 60252						
	70 μm	o 60253						
	100 μm	o 60254	● 60364	• 60374	● 60384 ● 60388		€ 60667	
	150 μm	o 60255					€ 60668	
	200 μm	o 60256		×			€ 60669	
	250 μm	<b>o</b> 60257						
	Reference product	● 60252 ● 60262	⊚ 60362	● 60372	● 60381 ● 60386	● 58452	<b>©</b> 60667	<b>⊚</b> 60250
	Peel adhesion [N/cm; SUS initial/ ultimate]	5.4/8.3	7.0/8.0	4.3/5.6	8.0/10.0	n.a.	10.4	>5
and periodical	Dynamic shear [Mpa]	n.a.	n.a.	n.a.	n.a.	>7	n.a.	n.a.
	Contact resistance $[\Omega/inch^2]$	0.05	0.01	0.01	0.06	0.05	0.05	0.05
	Surface resistance [Ω/sq]	0.2	0.1	0.1	0.3	0.5	0.2	0.2
	Shielding effectiveness [-dB]	>50	>50	>50	>50	~40	>50	>40

● Black ● Gray



#### For shielding and covering applications

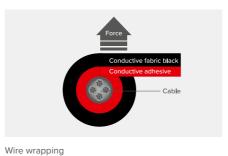
Covering and shielding applications are broad and have different requirements for conductivity, adhesion, and design. Our single-sided ECT assortment meets the latest requirements for shielding and appearance.



## **Typical applications**







covering Component shielding

Assortment overview

		tesa® 6023x	tesa® 6033x	tesa® 6053x	tesa® 6031x	tesa® 6034x
De	sign		1	ţ.	Ţ	Ė
Col	lor	Matte black	Matte black	Orange	Orange	Gray
Adl	hesive	Conductive acrylic	Conductive acrylic	Conductive acrylic	Conductive acrylic	Conductive acrylic
Bad	cking	Fabric, copper	Copper	Copper	Copper	Fabric
	ecial tures	Modern, matte black design	Modern, matte black design with high shielding	Excellent bonding	Low-pressure activation, high conductivity	Low-pressure activation, high conductivity
	20 μm		● 60332			
	25 μm	● 60231				
	30 μm		• 60333	• 60537	• 60317	<b>6</b> 0347
ness	35 μm	● 60232				
Thickness	40 μm		● 60334			
	45 μm	● 60238				
	50 μm			• 60538	• 60318	<b>o</b> 60348
	55 μm	● 60234				
	Reference product	• 60232	• 60333	• 60537	• 60317	● 60347
ormance	Peel adhesion [N/cm; SUS initial/ ultimate]	3.5/4.5	4.0	6.3/7.5	4.6/5.3	3.5/4.8
Product performance	Contact resistance $[\Omega/\text{inch}^2]$	0.05	0.05	0.05	0.03	0.05
₽.	Surface resistance $[\Omega/\text{sq}]$	0.2	0.1	0.2	0.2	0.2
	Shielding effective- ness [-dB]	>50	>60	>70	>70	>50

● Matte black ● Gray ● Orange

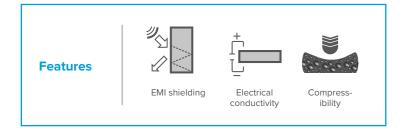
Didn't find what you were looking for?

We have more options available in our portfolio, and by partnering with you we can create unique and specialized products that meet your individual demands.



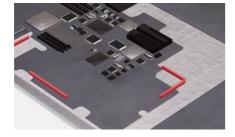
#### For conductive gap filling

Our single-sided electrically conductive foam tapes can be used for shielding, grounding, and filling gaps. They will provide either outstanding conformability and recovery properties or very high abrasion resistance, depending on the foam material chosen. All series in this assortment have very good shock-absorbing and cushioning properties.



#### **Typical applications**





FPC grounding

FPC Shielding

#### Assortment overview

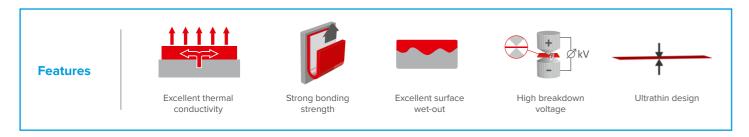
		tesa® 6021x	tesa® 6068x	tesa® 6024x
Des	sign			
Col	lor	Gray	Gray	Gray
Adl	hesive	Conductive acrylic	Conductive acrylic	Conductive acrylic
Bad	cking	Soft foam	Ultrasoft foam	Gasket foam
	ecial tures	Excellent electrical conductivity	Excellent compressibility	Abrasion resistance
	200 μm	<b>o</b> 60213		
	300 μm	<b>o</b> 60214		<b>o</b> 60246
SS	500 μm	<b>o</b> 60215	<b>o</b> 60685	<b>o</b> 60248
Thickness	<b>700</b> μm	<b>o</b> 60210	<b>o</b> 60687	<b>o</b> 60249
늗	1,000 μm	<b>o</b> 60216	<b>o</b> 60688	
	1,500 μm	<b>o</b> 60217		
	2,000 μm	<b>©</b> 60218		
	Reference product	● 60215	● 60685	<b>o</b> 60248
nce	Peel adhesion [N/cm; SUS initial/ ultimate]	4.8/8.3	6.0/8.0	4.8/6.3
Product performance	Contact resistance $[\Omega/inch^2]$	0.03	0.03	0.03
Produc	Surface resistance $[\Omega/\text{sq}]$	0.2	0.2	0.2
	Shielding effective- ness [-dB]	>70	>70	>70
	Recovery rate after 24h [%]	90	96	96

Gray

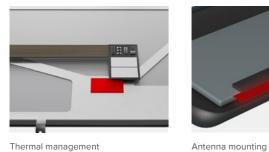


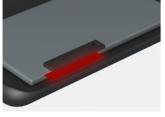
#### Keeping electronic devices cool

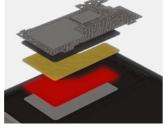
tesa® Thermal Management Tapes provides superior thermal transfer performance with excellent bonding properties. It delivers very good surface wet-out on substrates due to the transfer tape design which helps to maximize the thermal transfer efficiency in electronic devices. The available thickness range, which starts from ultrathin 10  $\mu$ m and ends at 100  $\mu$ m, offers more flexibility in the device design.

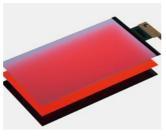


#### **Typical applications**









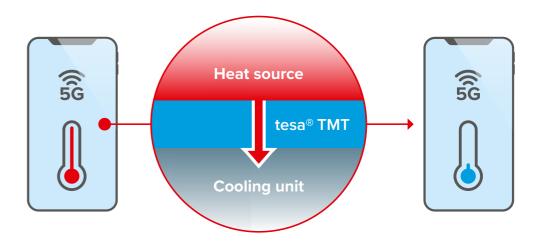
Vapor Chamber mounting Thermal management for display

#### Assortment overview

		tesa® 6074x	tesa® 60735			
De	sign					
Со	lor	White	Black Thermally conductive acrylic			
Ad	hesive	Thermally conductive acrylic				
Spe	ecial features	Excellent thermal transfer efficiency	Excellent appearance quality for display application			
	10 μm	O 60742				
Thickness	30 μm	O 60743				
Thick	50 μm	o 60744	• 60735			
	100 μm	0 60745				
	Reference product	O 60744	● 60735			
Product performance	Peel adhesion [N/cm; SUS initial/ ultimate]	5.0	4.0			
Product p	Thermal conductivity [W/m x K]	1.0	0.4			
	Wetting [%]	84	82			
	Break- down voltage [kV]	2.9	1.4			

● Black O White

#### Cooling scenario





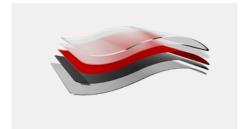
#### Optically clear adhesives with special features

Our comprehensive assortment is designed to provide a solution for every display application. All our materials are produced in a clean room and fulfill optically clear requirements, while also being environmentally stable and compatible with other display layers.

#### Typical applications



Cover lens lamination



Touch panel lamination



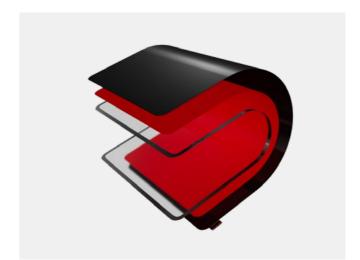
Lamination in VR/AR devices



3D cover lens lamination

#### New OCA solutions

In addition to our active assortment, we are constantly developing new adhesive solutions for displays. Our latest innovations include tesa® OCA 693xx for thinner designs and tesa® 71xx with good mura resistance for automotive display. Besides, a range of OCAs that add UV-blocking properties for polarizer less designs are under development.



#### Flexible layers

Laminating flexible layers within a foldable or rollable display requires excellent peel adhesion and very good bending properties. For some special substrates like silver nanowire, an OCA tape with good compatibility is required. Contact us to learn more about available solutions.

#### Assortment overview

	tesa® 693xx	tesa® 699xx	tesa® 698xx	tesa® 696xx	tesa® 71xx	tesa® 58xx	tesa® 771x	tesa® 692xx	tesa® 6156x	tesa® 6153x
esign										
plor	Transparent	Transparent	Transparent	Transparent	Transparent	Transparent	Transparent	Transparent	Transparent	Beige
/pe	UV-curable	UV-curable	UV-curable	UV-curable	PSA	PSA	PSA	PSA	PSA	PSA
/-curing dosage [mj/cm²]	3,000	1,000	3,000	3,000	-	-	-	-	-	-
pecial features	High performance for thin design gaps	Curved design lamination	Outgassing resistant	Excellent gap filling	Mura resistance	Outgassing resistant	Easy lamination	UV-block	Low dK, Iow WVTR	Moisture blocking
10 μm		0 69900								
25 μm	0 69301	0 69901					0 7711		0 61562	<b>o</b> 61531
<b>50</b> μm	0 69302	0 69902	0 69802				0 7712		0 61563	<b>61533</b>
75 μm									0 61564	
100 μm	0 69304	0 69904	0 69804	0 69604			0 7714	0 69204		
125 µm				0 69605						
150 μm		0 69906	0 69806	0 69606	07106	o 5806		0 69206		
175 μm				0 69607						
200 μm		0 69908	0 69808	0 69608	0 7108	0 5808		0 69208		
250 μm					0 7110	o 5810				
300 μm			O 69812	0 69612		0 5812				
Reference product	0 69304	0 69904	o 69804	0 69604	0 7108	o 5808	0 7712	0 69204	o 61563**	<b>61533**</b>
Glass	11.8	12	10.2	11.1	8.6	9.1	8	6.9	5.0	6.5
Peel adhesion [N/cm; ultimate] PET	4.6	10.6	7.6	7.9	7.8	5.7	n.a.	4.8	3.3	6.0
PC PC	14.1	12.6	9.8	10.0	9.4	8.5	8.3	7	4.7	6.8
Transmission [%]	>99	>99	>99	>99	>99	>99	>99	>99	>99	n.a.
Haze [%]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	n.a.
Refractive index	1.48	1.48	1.48	1.48	1.48	1.47	1.48	1.48	1.52	n.a.
Gap filling [%]	40	15	30	25	20	12	10	5	<10	<10
Dielectric constant <sup>1</sup>	5.7	4.58	4.7	4.5	5.3	6.7	5.7	4.9	2.56	2.92
<b>G'</b> [kPa] <sup>2</sup>	348	1,620	250	130	69	124	111	106	550	Upon request
WVTR <sup>3</sup> [g/m <sup>2</sup> *day]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.9	0.45
Lag time <sup>4</sup> [h]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	25	10,000

<sup>\*</sup> Further thicknesses might be available upon request.

O Transparent O Beige

<sup>\*\*</sup> Deviating thickness.

<sup>1100</sup> kHz

<sup>&</sup>lt;sup>2</sup> 25°C, 1 Hz

<sup>&</sup>lt;sup>3</sup> 38°C, 90% rel. humidity, 1 mm

<sup>&</sup>lt;sup>4</sup> 60°C, 90% rel. humidity, 6.5 mm gap <sup>5</sup> WVTR after all getter is used up

# Global presence



#### Your local contacts

Hugo-Kirchberg-Strasse 1 22848 Norderstedt | Germany +49-40-888-990 electronics@tesa.com

111 W Evelyn Ave Suite 308 Sunnyvale, CA 94086 | USA +1-669-732-9809 electronics@tesa.com

No. 1, 2500 Lane Xiu Pu Road 201315 Pudong | Shanghai, China +86-21-6818-3110 electronics@tesa.com

City Air Tower, Office 1805 36 Teheran-ro 87-gil, Gangnam-gu Seoul 06164 | Korea +82-2-34300-100 electronics@tesa.com

1-27-6 Shirokane, Shirokane Takanawa Station Bldg 8F Minato-ku 108-0072 | Tokyo, Japan +81-3-6833-2300 electronics@tesa.com

#### Southeast Asia

9 North Buona Vista Drive 04-01 The Metropolis Tower 1 138588 | Singapore +65-6697-9888

electronics@tesa.com

#### India

301, 3rd Floor, Lakhani Centrium, Plot No 27, Sec 15, CBD Belapur, Navi Mumbai – 400614, Maharashtra +91-22-4741-9200 electronics@tesa.com

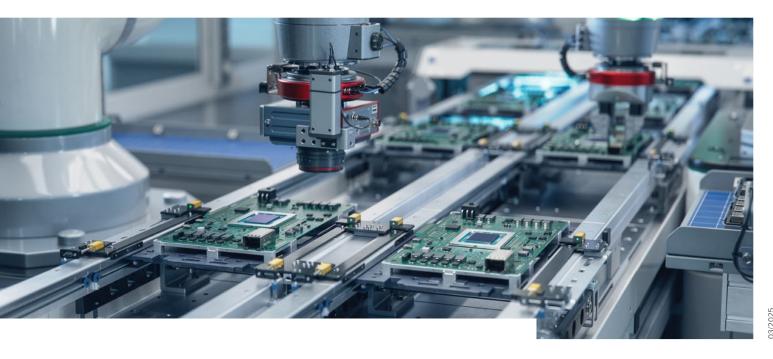
Unit 210, 2nd Floor, V-Tower 649 Kim Ma Street, Ba Dinh District Hanoi | Vietnam +84 243 766 7800

electronics@tesa.com

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.

42 Global presence – Contacts Global presence – Contacts 43





#### 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: +49-40-888-990 tesa.com/company/locations