



# MASKING EXPERTISE FOR EXCELLENT PAINT JOBS

Our Masking Solutions for the Automotive Industry



# Masking Technology – Unmasking Endless Design Possibilities

The visual appeal of today's paint designs is an essential buying criteria for car drivers. Our comprehensive masking assortment supports OEMs to create an accurate and unique look, while ensuring easy and lean paint shop processes. Take a look at our solutions for precise and perfect paint finishes:

- Fineline tapes
- Roll masker
- Overmasking tapes
- Flange masking
- Paper masking
- Customized dispenser solutions

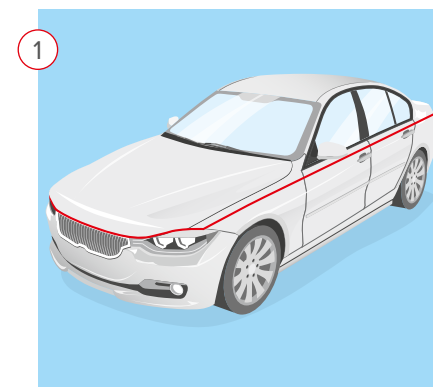


## Enabling diverse design upgrades

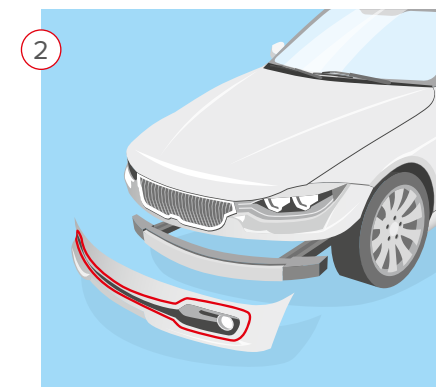
Car customization is one of the megatrends in today's automotive industry. We offer a wide range of sophisticated solutions for car body and bumper masking applications that meet the demanding requirements of the paint process. This helps OEMs to create a unique yet reproducible car design.

Our paper masking range helps OEMs to deliver long-lasting and flawless cars to their customers, enabling, for example, the temporary sealing of holes before the underbody coating and the economic finish of repair jobs – our paper masking tapes are all-rounders in the paint shop.

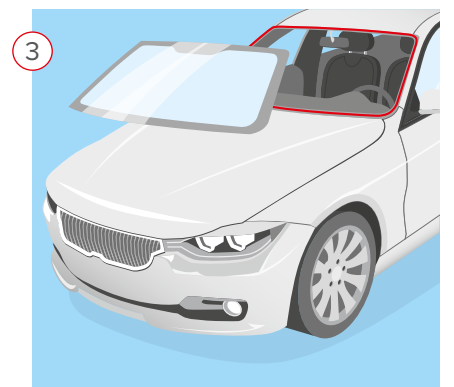
The trend for lightweight material is an important topic in the automotive industry, leading to the increased use of adhesive bonding techniques. The use of flange masking thereby enables the safe and primerless bonding of different materials, such as PP as well as crash-relevant parts like the windshield. As a result, the complexity in the manufacturing process is reduced.



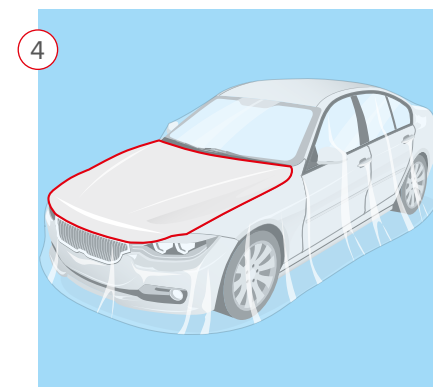
Two-tone fineline masking



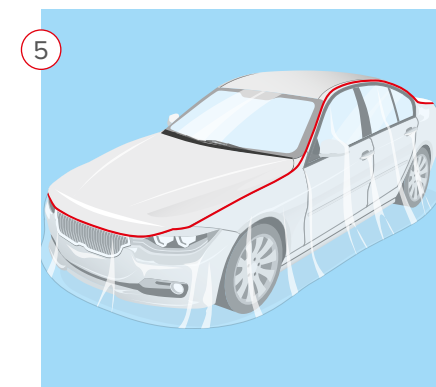
Bumper masking



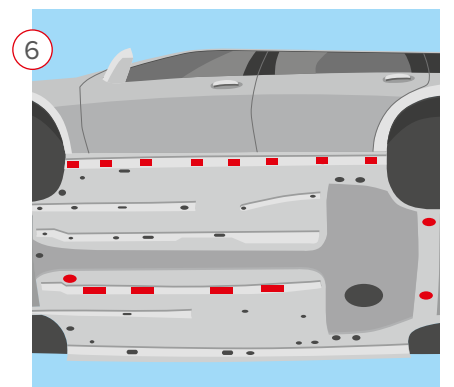
Flange masking



Repair masking



High-temperature car body masking



Temporary sealing

# EASY AND LEAN PAINT SHOP PROCESSES

## Paint jobs easily accomplished

Before the car body arrives in the assembly shop with an eye-catching surface finish, it runs through a dozen process steps in the paint shop. Each of these steps – such as surface treatment for corrosion protection; temporary and permanent sealing; and the painting of base and clear coats – features its own demanding conditions including a zero-fault tolerance principle.

Our masking range and expertise helps OEMs to master the challenges and keep each step as lean as possible. This includes ensuring reliable adhesion; avoiding overspray on e-, solvent-, and water-based coatings even at high temperatures in the oven; and guaranteeing simple and residue-free tape removal to prevent extra work.

- 1 E-coating
- 2 Drying 185°C
- 3 Paint masking
- 4 PVC under body coating, filler
- 5 Drying  $\geq 180^{\circ}\text{C}$
- 6 Flange masking
- 7 Design masking
- 8 Painting (base and clear coat)
- 9 Drying  $160^{\circ}\text{C} - 180^{\circ}\text{C}$
- 10 Painted car body
- 11 Repair masking
- 12 Assembly and final inspection

## Flange masking

	tesa® 7140 PV0	tesa® 7140 PV3
Technical data		
Key characteristics	Conformable flange masking tape	Highly tear-resistant flange masking tape
Temperature resistance PP-EPDM [°C/1h]	170	170
Backing/color	PVC film/ yellow	PVC film/ yellow
Adhesive	Natural rubber	Natural rubber
Thickness of tape [µm]	168	181
Adhesion to steel [N/cm]	4	4
Tensile strength [N/cm]	73	100
Elongation at break [%]	130	130
Application examples	Flange masking on curved shapes	Flange masking for straight lines

## Fineline tapes

	tesa® 4185	tesa® 50777	tesa® 4174	tesa® 51108	tesa® 4244 PV0	tesa® 4244 PV2	tesa® 4215	tesa® 7133
Technical data								
Key characteristics	Thin, conformable, and yet highly temperature-resistant fineline tape	Highly temperature-resistant fineline tape with an acrylic adhesive	Universal and conformable fineline tape	Thin fineline tape with PET backing	Conformable fineline tape	Conformable fineline tape with strong adhesion	Conformable PVC-free fineline tape	Thin fineline tape with PP backing
Temperature resistance PP-EPDM [°C/1h]	160	160	150	150	140	140	120	120
Backing/color	PVC film/blue	PVC film/blue	PVC film/gray	PET film/gray	PVC film/ yellow	PVC film/ yellow	PE film/green	PP film/blue
Adhesive	Natural rubber	Acrylic	Natural rubber	Natural rubber	Natural rubber	Natural rubber	Natural rubber	Natural rubber
Thickness of tape [µm]	94	132	110	54	110	110	130	80
Adhesion to steel [N/cm]	3.3	2	3.4	3.3	3.7	4.2	2.5	2
Tensile strength [N/cm]	36	30	25	47	27	31	19	133
Elongation at break [%]	270	240	200	120	237	252	350	30
Application examples	Masking for visible paint lines during two-tone car body painting	Two-tone car body masking and flange masking	Two-tone car body and bumper masking	Masking of long straight and fine lines	Masking of curves up to 140°C	Masking of 3D shapes	Masking in narrow curves up to 120°C	Straight line masking up to 120°C

## Paper masking tapes

	tesa® 4318	tesa® 4330	tesa® 4341	tesa® 4309	tesa® 4316	tesa® 4317	tesa® 4322
Technical data							
Key characteristics	Slightly creped masking tape with a high temperature resistance	Conformable and wet-grinding masking tape	Masking tape with excellent adhesion and tearing resistance	Masking tape with high adhesion and tearing resistance	Thin and conformable masking tape	Thin and conformable masking tape	Highly conformable masking tape
Temperature resistance PP-EPDM [°C/1h]	160	140	140	120	100	80	60
Backing/color	Slightly creped paper/ brown	Slightly creped paper/ cream	Slightly creped paper/ brown	Slightly creped paper/ brown	Slightly creped paper/ cream	Slightly creped paper/ cream	Highly creped paper/ yellow
Adhesive	Natural rubber	Natural rubber	Natural rubber	Natural rubber	Natural rubber	Natural rubber	Natural rubber
Thickness of tape [µm]	170	175	190	170	140	140	380
Adhesion to steel [N/cm]	4	4.8	4.7	3.5	3.4	3.3	5
Tensile strength [N/cm]	47	42	53	47	38	38	28
Elongation at break [%]	12	12	13	12	10	10	58
Application examples	High temperature masking up to 160°C	Masking in curves up to 140°C	Masking up to 140°C where a high tear resistance is required	Masking up to 120°C	Masking up to 100°C	Masking in curves up to 80°C	Masking in narrow curves up to 60°C



# INDUSTRIAL CAR INDIVIDUALIZATION

More than **400**  
Excellent **Two-Tone**  
Paint Jobs  
per Day and Line



## Mastering process times with the right application system

Attractive multicolor paint coatings can increase a car's selling price by some hundreds of euros. However, the production of two-tone-colored cars often creates challenges in the paint shop to ensure the reproducibility of each painted car at a high quality level and to keep to tight process times.

We have put together a complete package for fine color separation for various locations on the car body, reliable large area maskings, and tools for precise applications and short throughput times. By following this approach, OEMs enjoy the increased value of their cars by maximizing the two-tone car output.

### Full range



Roll masker  
(2-in-1 solution  
of tape and  
nonadhesive film)



Fineline tapes  
and customized  
die-cuts



Tools



### Process optimized

Quick masking and demasking enables inline integration as well as cycle time reduction



### High quality ensured

Perfect workability enables exact design implementations and reproducible car designs

## Engineering support beyond the tape

As a reliable partner for the paint shop, our activities and services are not limited to the delivery of tape or overmasking material. We also think in terms of the leanest application of our materials supported by universal and customized tools, such as fineline tape dispensers or jigs.

Based on our extensive industry experience in paint shop projects, we analyze the individual process and design parameters and create integrated and precise masking processes. For example, we support OEMs in defining the right position of visible and nonvisible split lines and in finding lightweight tooling solutions that do not need any guidance from edges or grooves to ensure a high-quality paint line.

This approach and service lead to measurable savings in energy and operating costs as well as to an impressive quality standard. Of course, our support also covers on-site application training, putting the OEM into the driver seat.



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