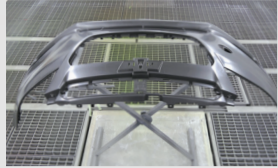
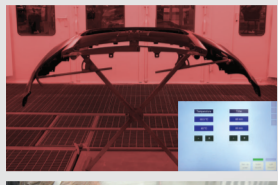


Plastic Car Parts New and unprimed



New exterior common plastic car parts made from:
ABS, AS, ASA, EPDM, PA, PBT, PC, PMMA, PPE, PPO, PP*, PUR, PVC, ABS+PBT, ABS+PC, ABS+PPO, ABS+TPU, PA+PPE, PBT+PC, PMMA+ABS, PMMA+PP, PP+EPDM, PUR+PVC, PUR+RIM
*Pure Polypropylene (PP) is a critical substrate. Depending on the PP substrate quality, additional pre-treatment steps (e.g. flame pre-treatment) might be necessary to ensure proper adhesion of the subsequent paint build-up.



Tempering 60 min./60-65°C. Depending on the heat resistance of the plastic or plastic-blend, suitable support must be used for the add-on parts to avoid deformation.



First cleaning: use an ultrafine pad soaked in Permaloid® Silicone Remover 7010.



Final cleaning: use a cloth moistened with Permaloid Silicone Remover 7010. Wipe surface to loosen and lift contaminants. Thoroughly wipe off with a clean cloth immediately. Change cloths often. Never use dirty cloths. Remove thoroughly all traces of release agents!



Tack rag and blow with anti-static gun. On critical plastic substrates such as PP the use of Priomat® Priomat Elastic Adhesion Primer 3304/3400 prior to the application of Permasolid® Speed-TEC HS Wet-on-Wet Speed Surfacers 5550 mixed with Permasolid Speed Tec Speed Plastic Additive 9260 is recommended.



Apply Permasolid HS Vario Primer Surfacers 5340 + Permasolid Plastic Additive 9060 or Permasolid Speed-TEC HS Wet-on-Wet Speed Surfacers 5550 + Permasolid Speed-TEC Speed Plastic Additive 9260. Flash-off. Denibbing possible after flash-off. Use P1000 abrasive or similar.



Apply Permahyd® Hi-TEC Basecoat 480 with elastified Permasolid HS Clear Coats* or elastified Permasolid HS Automotive Topcoat 275*. Dry according to Technical Data Sheet.
*In countries without VOC legislation Permacron® Basecoat 293/295 with elastified Permacron MS Clear Coat can be used as well.

Due to the increasing variety of plastic substrates present on the market, even the quality of the same plastic type (e.g. PP+EPDM) can differ a lot from brand to brand and type of car, e.g. using different polymer blends and ratios thereof. Also release agents used during the production have a huge impact on the adhesion of the applied paint film. For this reason, a pre-test should be performed to ensure that the pre-treatment is sufficient for proper adhesion. The given build-up recommendations should only be used as a reference guideline.



Plastic Car Parts New and factory primed



Exterior common plastic car parts factory primed.



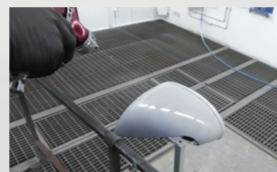
Clean carefully with Permahyd® Silicone Remover 7080. Sand with P1000, Scotchbrite grey pad or similar.



Re-clean carefully with Permahyd Silicone Remover 7080.
Note: Depending on the quality of the factory primer, the use of Permaloid® Silicone Remover 7010 can cause swelling or redissolving issues while cleaning.



Tack rag and blow with anti-static gun.



Apply Permasolid HS Vario Primer Surfacers 5340 + Permasolid Plastic Additive 9060 or Permasolid Speed-TEC HS Wet-on-Wet Speed Surfacers 5550 + Permasolid Speed-TEC Speed Plastic Additive 9260. Flash-off. Denibbing possible after flash-off. Use P1000 abrasive or similar.



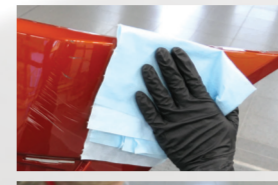
Apply Permahyd Hi-TEC Basecoat 480 with elastified Permasolid HS Clear Coats* or elastified Permasolid HS Automotive Topcoat 275*. Dry according to Technical Data Sheet.
*In countries without VOC legislation Permacron® Basecoat 293/295 with elastified Permacron MS Clear Coat can be used as well.



Plastic Car Parts Damaged



Painted exterior common plastic car parts made from:
ABS, AS, ASA, EPDM, PA, PBT, PC, PMMA, PPE, PPO, PP, PUR, PVC, ABS+PBT, ABS+PC, ABS+PPO, ABS+TPU, PA+PPE, PBT+PC, PMMA+ABS, PMMA+PP, PP+EPDM, PUR+PVC, PUR+RIM



Inspect and clean damaged area with Permaloid Silicone Remover 7010.



Major damage (cracks or deep scratches) must be repaired initially with special plastic repair kits (e.g. 3M, Tersoson, etc) provided that the effort required does not exceed the cost of a



Sand damaged area with P280-P360. If putty needs to be applied, sand damaged area with P180-P240.



Re-clean damaged area with Permaloid Silicone Remover 7010.



If required apply UPOL PLAS/6 Plastic Bumperfill to the damaged area.



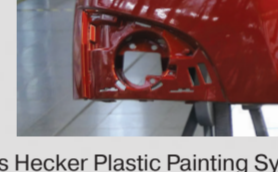
Optional: Prior to the putty apply Priomat® Elastic Adhesion Primer 3400.



Sand to shape with P180-P240. Refine the repair surface with P280-P360. Hand sand corners and edges with P500-P600. Feather the repair area with P360-P400. Clean sanded areas with Permaloid® Silicone Remover 7010.



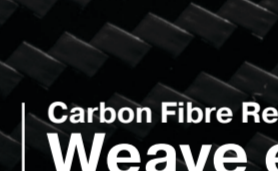
Apply Priomat Priomat Elastic Adhesion Primer 3304/3400. Flash-off. Apply a suitable elastified Permasolid HS Surfacers, e.g. Permasolid HS Performance Surfacers 5320. Dry according to Technical Data Sheet.



Hand sand corners and edges with P800-P1000. Machine sand with P500-P600 with suitable soft backing pad. Remove sanding dust and clean with Permahyd Silicone Remover 7080.



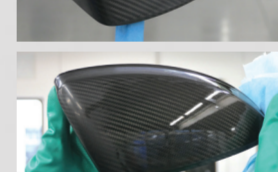
Tack rag and blow with anti-static gun.



Apply Permahyd Hi-TEC Basecoat 480 with elastified Permasolid HS Clear Coats* or elastified Permasolid HS Automotive Topcoat 275*. Dry according to Technical Data Sheet.



*In countries without VOC legislation Permacron® Basecoat 293/295 with elastified Permacron MS Clear Coat can be used as well.



Follow the particular OEM process/guidance on bumper repair. Pay attention to the film build limitations/sensor requirements. Follow relevant Spies Hecker product TDS's. Please refer also to the Spies Hecker Plastic Painting System TDS – SHPlasticSystem. Refinished plastic car parts should not be washed with a high-pressure jet cleaner within the first six weeks. After this period, the nozzle must be held at a distance of no less than 30cm from the object.

UP Composites Gelcoated or factory primed



Composites based on unsaturated polyester resin*:
UP-GF Fibreglass reinforced plastic
BMC Bulk Moulding Compound
SMC Sheet Moulding Compound
*Usually coated with Gelcoat protection layer (UP-GF) or factory primed by manufacturer (BMC/SMC).



Inspect surface for any damage or imperfections and clean with Permaloid Silicone Remover 7010.



Sand with P180-P240 when coated with gelcoat. Sand with P320-P360 when pre-primed by manufacturer. Clean again with Permaloid Silicone Remover 7010.



Apply a putty if required, e.g. UPOL Gold Fine Filler. If required for Gelcoat surfaces, apply Raderal Spray Polyester 3508. Adjust and apply products according to the Technical Data Sheet. Coarse dry sanding P120-P220, refine by dry sanding P240-P360. Remove dust and clean surface.



Apply a suitable Permasolid HS Surfacers, e.g. Permasolid HS Performance Surfacers 5320. Dry according to Technical Data Sheet.



Hand sand corners and edges with P800-P1000. Machine sand with P500-P600.



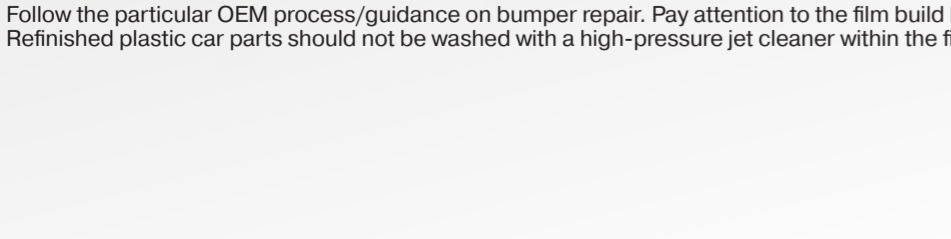
Remove sanding dust and clean with Permahyd Silicone Remover 7080.



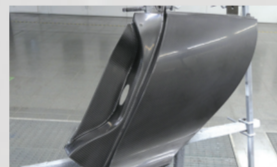
Tack rag and blow with anti-static gun.



Apply Permahyd Hi-TEC Basecoat 480 with Permasolid HS Clear Coats* or Permasolid HS Automotive Topcoat 275*. Dry according to Technical Data Sheet.
*In countries without VOC legislation Permacron® Basecoat 293/295 with Permacron MS Clear Coat can be used as well.

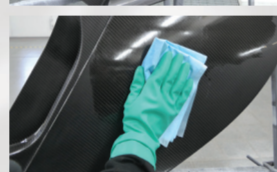


Carbon Fibre Reinforced Plastic (CFRP) Full cover build



Composites made of Carbon Fibre Reinforced Plastic (CFRP)

Important remark: If the complex part structure of a load-bearing carbon fibre part is damaged, the part must be replaced. Failure to do so may lead to an increased safety risk.



Inspect surface for any damage or imperfections and clean with Permaloid Silicone Remover 7010.



Sand with P180-P240. Clean again with Permaloid Silicone Remover 7010.



For small imperfections apply a putty if required, e.g. UPOL Gold Fine Filler.



Adjust and apply according to the Technical Data Sheet. Dry sanding P180-P240. Remove dust and clean surface.



Apply a suitable Permasolid HS Surfacers, e.g. Permasolid HS Performance Surfacers 5320. Apply in 2 coats with intermediate flash-off to achieve approx 80 µm. Dry according to Technical Data Sheet. Machine sand with P240-P320. Remove dust and clean with Silicone Remover 6600.



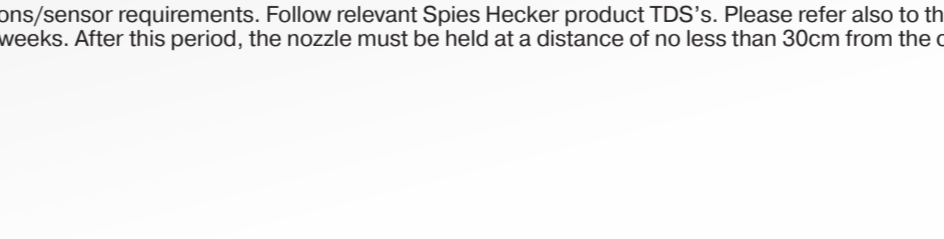
Re-apply the same Permasolid HS Surfacers e.g. Permasolid HS Performance Surfacers 5320 again in 2 coats with intermediate flash-off to achieve approx 80 µm. Dry according to Technical Data Sheet. Hand sand corners and edges with P800-P1000. Machine sand with P500-P600.



Remove sanding dust and clean with Permahyd® Silicone Remover 7080.



Tack rag and blow with anti-static gun.



Carbon Fibre Reinforced Plastic (CFRP) Weave effect look



Composites made of Carbon Fibre Reinforced Plastic (CFRP) obtaining the carbon weave effect look

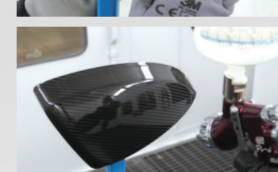
Important remark: If the complex part structure of a load-bearing carbon fibre part is damaged, the part must be replaced. Failure to do so may lead to an increased safety risk.



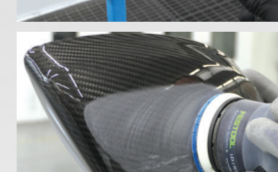
Inspect surface for any damage or imperfections and clean with Permaloid Silicone Remover 7010.



Sand with sanding pad grey ultrafine or suitable soft backed pad. Sand carefully in order to avoid any damage to the carbon fibre weave. Clean again with Permaloid Silicone Remover 7010.



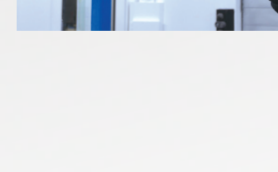
Use Axalta Carbon Fibre Sealer AXT505 to eliminate imperfections and to achieve a smooth surface to apply the clear coat on. Apply first coat of Axalta Carbon Fibre Sealer. Flash-off. Please consider specific product preparation for first and second coat. Apply second coat of Axalta Carbon Fibre Sealer. Dry according to Technical Data Sheet.



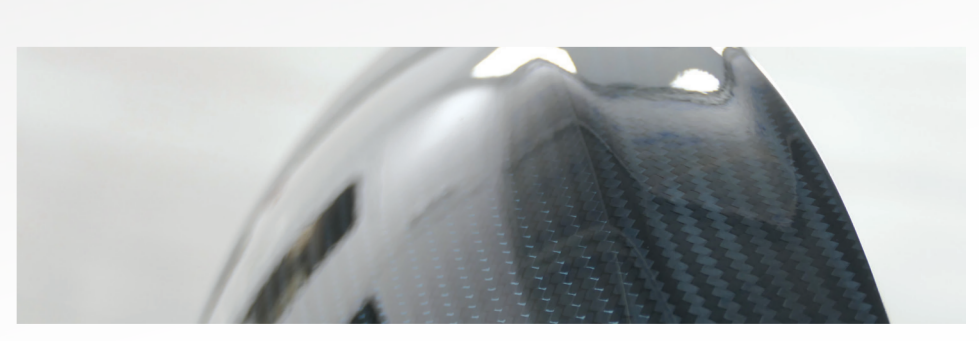
Sand with machine and P400-P600. Remove dust and clean with Permaloid Silicone Remover 7010.



Apply a suitable Permasolid HS Clear Coat*, e.g. Permasolid HS Clear Coat 8055. Dry according to Technical Data Sheet.



*The use of Spies Hecker Clear Coat Color Additives is possible to achieve coloured effects. Depending on the required effect, 2-4% of Clear Coat Color Additives can be mixed to the clear, before adding hardener/reducer. In such cases finally finish the application with the same clear coat non-tinted.



Follow the particular OEM process/guidance on bumper repair. Pay attention to the film build limitations/sensor requirements. Follow relevant Spies Hecker product TDS's. Please refer also to the Spies Hecker Plastic Painting System TDS – SHPlasticSystem. Refinished plastic car parts should not be washed with a high-pressure jet cleaner within the first six weeks. After this period, the nozzle must be held at a distance of no less than 30cm from the object.