

TECHNICAL DATA SHEET

0893 235 1; 0893 235 2; 0893 235 3

Bond and Seal Power

Heavy-duty, elastic hybrid structural adhesive

Fields of application:

For dynamically loaded structural bonded connections and seam and joint sealing in bodywork, vehicle and caravan construction, railway carriage and container construction, metal and equipment construction, in air-conditioning and ventilation duct construction, in the food industry and many more. Very good adhesion to almost all surfaces, such as steel, stainless steel, zinc-plated steel, sheet steel (including phosphated, chrome-plated and zinc-plated sheet steel), aluminium (including anodised aluminium), painted surfaces, copper, brass, zinc, ABS, GRP, hard PVC hard foams, PMMA, polyamide, polycarbonate, polystyrene (no foam), wood, HPL, cork, concrete, aerated concrete, gypsum, gypsum plasterboard, cement fibre boards, artificial stone, brick, enamel, glass, porcelain, ceramic, tiles.

Not suitable for PE, PP, PTFE, silicone, rubber, polystyrene, mirrors, marble, bituminous surfaces and softened plastics.

Properties:

- Excellent adhesion on a wide variety of substrates without the need for a primer
- Elastic with low flexibility
- High degree of initial strength
- Can be painted over
- High level of electrical resistance
- Non-corrosive
- Low-odour
- Resistant to UV, ageing and weathering
- Low VOC content and solvent-free
- Free from silicones, isocyanates and PVC

TECHNICAL DATA SHEET

Certificates/test reports:

- NSF registered, class P1, reg. no. 136996

Surface pre-treatment:

The application surfaces must be clean, dry and free of grease. The processing temperature is between +5°C and +40°C.

Optimum adhesion results are guaranteed by pre-treating the surfaces with HaftClean activating surface cleaner (0890 100 60) and Primer for Metal (0890 100 61), Primer for Plastic/Wood/Stone (0890 100 62), Adhesive Remover (0890 100 63), Penetrating Primer (item no. 0890 545 10) or Varioprimer safe + easy (item no. 0890 024 021/0890 024 101)

For more information on preparing material surfaces, refer to the optimisation table below. Carry out preliminary tests where necessary!

Optimisation table

Surface/material	Optimisation steps	Notes
Anodised aluminium	1. Activating cleaner 2. Primer for metal	First, lightly sand with an abrasive fleece if necessary.
Aluminium (AlMg3, AlMgSi1)	1. Thorough cleaning with IPA cleaner or adhesive remover 2. Sand lightly with a very fine abrasive fleece 3. Subsequently clean with IPA cleaner 4. Activating cleaner 5. Primer for metal or Varioprimer safe + easy	-
Non-ferrous base metals (brass, copper, bronze, etc.)		The use of Primer Plus metal primer is mandatory!
Stainless steel (rustproof)		-
Steel (St 37 etc.)		In components susceptible to corrosion: 2-component PU or epoxy corrosion protection required!
Zinc-plated steel (hot-dip or electrically galvanised)		-
Zinc		-
Powder coatings (PES, EP/PES)	Activating cleaner	Preliminary testing is recommended for applications involving significant forces or a damp environment.

TECHNICAL DATA SHEET

Surface/material	Optimisation steps	Notes
Two-component topcoat, water or solvent based (PUR, acrylic)	<ol style="list-style-type: none"> 1. Thorough cleaning with IPA cleaner or adhesive remover 2. Varioprimer safe + easy 	Due to the large number of paints available, this information is only a guide. Please perform preliminary tests where necessary.
2-component primers, water or solvent-based (PUR, acrylic, epoxy resin)	<ol style="list-style-type: none"> 1. Thorough cleaning with IPA cleaner or adhesive remover 2. Varioprimer safe + easy 	-
Cathodic dip coating (E-coating)	Activating cleaner	-
Coil-coat coating	Activating cleaner	-
ABS	<ol style="list-style-type: none"> 1. Thorough cleaning with IPA cleaner or adhesive remover 2. Sand lightly with a very fine abrasive fleece 3. Subsequently clean with IPA cleaner 4. Primer for P/W/S 	The sanding process can be omitted for parts subjected to little load.
GFRP (unsaturated polyester), layup side gelcoat side or SMC	<ol style="list-style-type: none"> 1. Thorough cleaning with IPA cleaner or adhesive remover 2. Varioprimer safe + easy 3. Sand lightly with "very fine" abrasive fleece 4. Subsequently clean with IPA cleaner 5. Activating cleaner 6. Primer for metal 	First, lightly sand with an abrasive fleece if necessary.
Hard PVC	<ol style="list-style-type: none"> 1. Activating cleaner 3. Primer for P/W/S 	-
PMMA/PC (without scratch-resistant coating)	<ol style="list-style-type: none"> 1. Thorough cleaning with IPA cleaner or adhesive remover 2. Varioprimer safe + easy 	Adhesive surface must be protected against UV radiation (opaque cover).

TECHNICAL DATA SHEET

Surface/material	Optimisation steps	Notes
Polyamide	1. Thorough cleaning with IPA cleaner or adhesive remover 2. Varioprimer safe + easy	-
Wood, plywood, MDF, wood products and cork	1. Removing dust 2. Primer for P/W/S	-
HPL laminated panels (Resopal, Ultrapas)	Activating cleaner	-
Glass	1. Thorough cleaning with IPA cleaner or adhesive remover 2. Varioprimer safe + easy	Adhesive surface must be protected against UV radiation (opaque cover).
Enamel, porcelain, ceramic, tiles	1. Activating Cleaner or IPA cleaner 2. Varioprimer safe + easy	-
Concrete, mineral mortar and plasters	1. Removing dust 2. Primer for P/W/S	-

Application:

Cut the nozzle tip to create the required bead geometry. The adhesive must be applied using a manual, battery-powered or piston-rod-style compressed-air gun or drum pump to ensure a reliable finish. Apply the adhesive in the form of a triangle of beads to ensure an even layer thickness. Non-cured material can be removed using adhesive remover (item no. 0890 100 63).

Following skin formation, can be mechanically machined and can be painted over after activation with HaftClean.

Technical data:

Chemical basis	Single-component polyurethane hybrid
Curing through	Atmospheric moisture
Colour	white, grey, black
Density*	Approx. 1.5 g/cm ³
Viscosity	Paste-like
Processing temperature	+5 °C to +40 °C

TECHNICAL DATA SHEET

Temperature resistance	-40°C to +90°C Up to 4 hrs at +140°C/1 hr at 150°C
Skin formation time*	Approx. 30 minutes
Curing speed	Approx. 3 mm/24 h
Change in volume (52451)	Approx. 2%
Shore A hardness (DIN 53505)	Approx. 50
Resistance to further tearing (DIN 53504 S2)	3 N/mm ²
Tensile shear strength (DIN EN 1465)	2 N/mm ²
Elongation at tear (DIN 53504 S2)	Approx. 600%
Resistance to further tearing (DIN 53515)	Approx. 15 N/mm
Spec. resistivity (DIN 53482)	Approx. 3 x 10 ¹¹ Ω/cm
Glass transition temperature (DIN 53445)	Approx. -50°C
Resistant to	Seawater and lime water, pH-neutral aqueous cleaning agents
Short-term resistance to	Fuels, mineral oils, vegetable and animal fats and oils
Not resistant to	Organic acids, alcohol, stronger mineral acids and alkaline solutions, solvents
Shelf life	12 months (+10°C to +25°C) in sealed original container

*Measured at 23°C/50% relative humidity

Notes:

- In the case of B and S Power, an additional layer can be added within the skin-formation time. Due to the multitude of different paints and coatings, preliminary tests must be performed to check compatibility. Two-component epoxy paints are compatible. Do not allow this product to come into contact with alkyd-resin paint systems.
- Since the elasticity of the paint is lower than that of the adhesive/sealant, cracks may form in the paint around the joint.

TECHNICAL DATA SHEET

This advice is based on our own research and experience. It is presented in good faith and may be considered reliable. However, due to the diverse processing, application and handling possibilities the information provided may not be considered legally binding. The same applies to the information provided by our technical and commercial customer service.

We recommend the users of our products to perform their own tests in order to determine whether our products are appropriate for the respective use and environment. We guarantee the consistent quality of our products. We reserve the right to implement technical changes and improvements.