

For gluing the surfaces, they must be prepared very carefully, because the "glue joint is only as good as the preparation".¹

The general information for the preparation of surfaces that are to be bonded is as follows:

- The surfaces must be dry and clean, i.e. they must be free from dust, oil, grease and other dirt.
- For cleaning, suitable solvents need to be used, for example, ethanol, acetone or isopropanol. It should be noted that interactions between the surface, adhesive tape and solvent may occur.
- Excess solvent must be removed → use of volatile solvents
- The cleaning of the surfaces must be done with a lint-free cloth.
- After cleaning, the adhesive surface should not be touched with bare hands.
- The gluing should take place immediately after the cleaning.
- The optimum processing temperature is between 15°C and 25°C. In this case, quick temperature drops should be avoided. The surfaces to be glued and the adhesive tape should have an identical temperature.
- The pressing must be uniform and take place with suitable pressure. For this purpose, a pressure roller can be used.
- There may be a delay of up to 72 h until the full adhesive strength is achieved.
- Fixing of the surfaces to be glued to each other

General guidelines for the construction of adhesive surfaces²:

- The fitting accuracy of the surfaces to be glued must be ensured.
- There should be no tensile and peeling stress, but only shear stress is permitted.
- The adhesive bond should be in the largest possible surface area.
- No overlap of the surfaces to be glued, as additional tensile stress can arise.

¹ Ettemeyer, A., Konstruktionselemente, FK06, Vers. 3.05 (2010), p. 10

² See. Ettemeyer, A., Konstruktionselemente, FK06, Vers. 3.05 (2010), p. 11

For improved gluing results, subsequent preparations can be performed in addition to the general surface preparation.

Table³ 1: Further preparatory surface treatments in accordance with DIN EN 13887

Material	Low stability	Medium stability	High stability
Aluminium alloy	No further treatment if fat-free and clean	Acid cleaning, degreasing, grinding and brushing	Blasting and brushing
Cast iron	No further treatment if fat-free and clean	Acid cleaning, degreasing, grinding and brushing	Blasting and brushing
Copper, brass	No further treatment if fat-free and clean	Sanding or grinding	Blasting
Steel and stainless steel	No further treatment if fat-free and clean	Sanding or grinding	Blasting
Galvanised or phosphated steel	No further treatment if fat-free and clean	No further treatment if fat-free and clean	No further treatment if fat-free and clean
Burnished steel	Very thorough degreasing	Very thorough degreasing	Blasting, burnishing is lost
Titanium	No further treatment if clean	Brushing	Acid cleaning
Magnesium	No further treatment if clean	Sanding or grinding	Blasting or acid cleaning
Zinc	No further treatment if fat-free and clean or light keying	No further treatment if fat-free and clean or light keying	No further treatment if fat-free and clean or light keying
Plastics	Light keying	Acid or plasma cleaning	Acid or plasma cleaning
Rubber	Light keying	Light keying	Light keying

For fast-oxidising surfaces, gluing must be done immediately after removing the oxide layer.⁴

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³ See Ettemeyer, A. (2010), p. 10

⁴ See Ettemeyer, A. (l.c.)