

Initial steps



ADHESIVE:
Remove the **upper** section of the sealing cap (threaded). **Do not cut off** the tip of the adhesive!

Important Ensure the tip of the adhesive does not become dirty and contaminated.

Tip: Wipe off adhesive residue after use on a blank sheet of paper.

The red dot on the tip has no function!



GRANULATE:
Remove the yellow lid (threaded) and carefully cut off the very top section of the tip



HG Directions for use

POWER GLUE



Storage and shelf life

Adhesive and granulate must be stored vertically in a cool and dry place (under 5° C e.g. fridge/freezer). These conditions ensure a shelf life of up to 1-2 years. **Tip:** place both bottles in an empty jam jar with a lid to create an airtight seal. **IMPORTANT: Allow glue to rise to room temperature before use**



Safety instructions

Cyanoacrylate. Danger! Do not inhale vapors! Bonds skin and eyelids together within seconds. Keep away from children.

Wear suitable protective gloves and protective goggles. Ensure work rooms are well ventilated. Do not inhale HG industrial adhesive! In the event of contact with the skin, wash immediately with soapy water and then apply skin cream. If it comes into contact with the eye, wash eyes immediately with appropriate eye wash and call a doctor immediately

Granulate safety instructions:

- Designation of risk does not apply, HG granulate does not require labeling under Ordinance on Hazardous Substances (GefStoffV).
 - Keep out of the reach of children, risk of swallowing!
- Do not inhale vapors created from the reaction with cyanoacrylate, wear appropriate protective gloves and protective goggles and ventilate work rooms well. Warning! Chemical reaction of the two substances **causes heat!**
- If it comes into contact with the eye, wash immediately with water and call a doctor.

Liability: Liability is not accepted for damages, improper application and use of HG products. This also applies to the resale to third parties



Instructions



1. Preparation / pretreatment For the best possible adhesion - all bonding areas must be roughened before adhesion (sandpaper, files etc.) The bonding areas must also be dry, free from rust, grease and dust and also from any adhesive residue! Cleaning with HG Cleaner or Aceton is recommended (Allow 5 mins for evaporation after cleaning)
TIP: Lay down some baking paper when gluing (avoids unwanted adhesion)

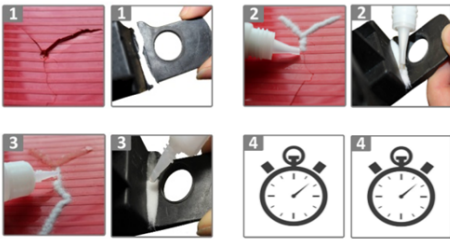
Repairing fractures and cracks

1. PREPARATION / PRETREATMENT (see above)

2. GRANULATE: Trickle the granulate directly onto the fracture/crack. The height of the powder must not be more than 2 mm. *The granulate does not cause a chemical reaction on its own.*

3. ADHESIVE: Drip the adhesive onto the granulate until the granulate is completely saturated with adhesive. Warning: adhesive reacts immediately with granulate. Alignment is no longer possible. Chemical reaction occurs and heat is created. *Please note:* The more often you repeat the process of applying granulate and saturating with adhesive, the more stable the joint will be. **Tip:** Apply weld on front and back!

4. HARDENING: The 'weld' hardens in just a few minutes and can then be sanded and painted over. The final rigidity may vary depending on the material.



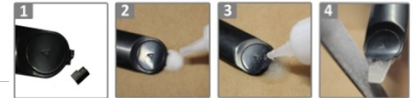
Reproducing broken-off, small parts

1. PREPARATION / PRETREATMENT (see above)

2. GRANULATE: Spread the granulate directly onto the area where the new holder is required. The height of the granulate should not be more than 2 mm. *Please note:* The more granulate that is placed on the base material, the more stable the new holder will be.

3. ADHESIVE: Drip the adhesive onto the granulate until all the granulate is completely saturated with adhesive. Warning: adhesive reacts immediately with granulate.

4. HARDENING: After just a few seconds, you are already able to file or sand the hardened material to shape it into the form required.



Filling holes / missing material

1. FORMWORK: In order to prevent the granular trickling through, you can mask off the open sides with masking tape.

2. GRANULATE: Now trickle the granulate into the hole/crack to be filled (No higher than 2 mm)

3. ADHESIVE: Drip the adhesive onto the granulate until all the granulate is completely saturated with adhesive. Warning: adhesive reacts immediately with granulate. Chemical reaction occurs and heat is created. Repeat this process (applying powder and saturating with adhesive) until the desired filling height has been achieved.

4. HARDENING: Depending on the filling height, the masking tape can be removed after approximately 2-10 minutes and the material can be worked on. Sanding, drilling, thread cutting, painting etc.



Adhesion: (without adding granulate)

1. PREPARATION / PRETREATMENT (see above)

2. DOSING Apply adhesive **thinly** on **one side** of the part to be glued

3. CONTACT PRESSURE: The adhesive remains viscous until hardening process is started by contact pressure. *Adjustment is possible for a short time without pressure.*

4. DRYING: In order to achieve maximum adhesive power we recommend leaving the adhesive for a few minutes without applying pressure. Several hours may be needed for hardening of porous surfaces such as porcelain, metal, stone, tiles etc. (maximum of 24 hours). The HG-Activator will help you to bond such materials together within seconds. The final rigidity may vary depending on the material



Properties

of the hardened chemical weld

Temperature resistance:	-45°C +115°C
UV and water resistant:	Yes
Chemical resistant (petrol, diesel etc.):	Yes
Tensile strength:	Rubber (NBR) 83 – 100N /cm ²
Tensile shear strength:	Steel 10-22N /mm ²

Material info:

The examples referred to here are based on empirical values. It is nevertheless recommended to try out their suitability, as exceptions may occur in individual cases.

Suitable materials: Plastic*, wood, rubber, metal and aluminum (ideal for smaller repairs), leather, tarpaulin, porcelain, stone, polyester, glass and many others * except for PE and PP

Unsuitable materials: Brickwork, felt, cardboard, styrofoam, Teflon, silicone and plastics containing wax such as PP and PE.

Material test

You can use the following test to check materials for their suitability (particularly plastics)



Trickle a small amount of granulate (ca. 1 mm high), onto the surface of the material which is to be glued together



Add **one drop** of adhesive onto the granulate and wait for one minute.



If you can separate the weld without significant effort, then it is highly likely that the material will not remain bonded together over the long term without pretreatment. The HG primer and also roughening might help you to bond together even these materials!

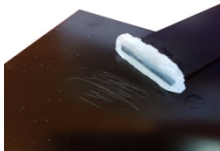


If you cannot remove the weld with your finger or if it can only be removed with significant effort, then there is nothing to prevent long-term adhesion.

Trouble shooting

If the chemical weld breaks as in this case, it is not able to bond with the base material. (A smooth surface is created on the underside of the weld)

- 1) There is a 'film' of dirt, oil or dust on the bonding area. (Thorough cleaning or cleaning afterwards using HG Cleaner or Aceton is needed)
- 2) This material is hard to bond. In most cases, roughening the bonding area helps. In the case of plastics, pretreatment using the HD primer is also required (coupling agent for plastics which are difficult to bond such as PE or PP) *The material test shows you whether you need HG Primer*



If the 'weld' breaks as shown in this picture, then a mechanical overload has occurred. (Application of force too great.) In most cases, increasing the bonding area will solve the problem for you. For this, apply several layers of 'weld' on top of one another. (2-4 layers)

Please note: The larger bonding area, the more

FAQ

• Is the 'weld in a bottle' a replacement for a genuine weld? The chemical weld created when the adhesive is dropped onto the granulate provides a very strong and stable bond! This can be several times more stable than conventional adhesive bonds. However, this high strength bonding does not replace a genuine weld.

- **When must I use the granulate?** The granulate is used when the bonding strength of the industrial adhesive is not sufficient, e.g. for brackets which have broken off. The chemical welded helps here to provide additional strength to the site of the fracture! For bonds which are to remain flexible or for precise adhesion over large areas the adhesive is used on its own (without granulate). e.g. soles of shoes, tarpaulin, jewelry, china cups etc.
- **In what proportions should granulate and adhesive be applied?** Proportion of adhesive to granulate 1:2 Important Granulate must be completely saturated with adhesive. (a slight change in color occurs when the granulate is saturated). You must also ensure that the powder is not more than 2 mm high (Otherwise the adhesive is not able to completely saturate the powder)
- **What must be applied first, granulate or adhesive?** It is recommended that the granulate is applied first and then the adhesive. With vertical repairs (in this case gravity would cause the granulate to fall away), it is recommended that the adhesive is applied first and then the granulate.
- **Can the glued area be released again afterwards?** The adhesive bonding alone can be released using HG-Cleaner. - However, the hardened weld can only be released or removed by means of mechanical destruction.
- **How long does it take for the 'weld' to harden?** A weld hardens in a few minutes and can then be mechanically processed, sanded, drilled or painted over. (fully set after 24 hours)
- **What should you do if you get adhesive on your skin?** Remove most of the adhesive left on the skin using skin cream, oil or nail varnish remover (fingers can be freed by twisting and using cooking oil). Remaining adhesive can be removed using your fingernail. **Tip:** Apply cream before use. **Warning!** Adhesive and welding powder together on the skin causes burning.