

# Plastic Metal Weicon WR

## Introduction

WEICON Plastic Metal is ideal for providing fast, cost effective and durable repairs and coatings to many different types of material. WEICON Plastic Metal is also suitable for tool and mould making.



This pourable wear-resistant type is used in mould making and wherever metal parts are subject to high wear caused by friction, e.g.:

- for repairing and build-up of shafts
- for pouring out bearings, cutting and punching tools
- for making casting and profile milling models as well as drawing moulds
- for pouring under machines and foundations
- and as a wear-resistant under-coating before final coating with WEICON Ceramic BL

WEICON Plastic Metal WR cures to a hard and wear resistant surface with good sliding properties. □

## Technical data

Composition	Epoxy resin steel-filled
Specific Properties	liquid, wear resistant
Mixing ratio by weight % (Resin/Hardener)	100:15
Pot-life at +20°C (200 g preparation)	45 Min.
Density of the mixture	2,3 g/cm <sup>3</sup>
Viscosity of the mixture	20.000 mPa·s
Max. layer thickness per application	10 mm
Cure time mechanical loads	16 h
final hardness	24 h
Mean compressive strength (+25°C) acc. to DIN 53281-83	110 MPa
Mean tensile strength (+25°C) acc. to DIN 53281-83	33 MPa
Mean Flexural strength (+25°C) acc. to DIN 53281-83	80 MPa
Mean strength E-Modul (+25°C) acc. to DIN 53281-83	5.000 - 5.500 MPa
Shore D (+25°C) acc. to DIN 53281-83	90
Shrinkage	0,02 %
Thermoforming resistance	65 °C
Colour	black
Temperature resistance	-35 to +120 °C

## Pretreatment of the surface

The surface to be treated or filled up must be clean (metallic clean), dry and free of grease. The same applies to the working tools and mixing vessels. To improve the adhesion, surfaces should be roughened, especially when they are smooth. WEICON Cleaner S or WEICON Sealant and Adhesive Remover help to remove almost all residues. If necessary, sand blast in addition.

Cast parts which have been exposed to sea water for a long time should be treated with special care as they might contain inorganic salts. It is possible that these salts reach the surface and absorb moisture, thus starting rust formation (rust bubbles under the protective coating). We therefore recommend to heat or flame the surface after sand blasting. If adhesion with the ground is not desired, a separating agent must be applied. For smooth surfaces e.g. WEICON Mould Release Agent F 1000 (silicone-free). For porous surfaces WEICON Mould Release Agent Wax P 500.

## Processing

Before adding the hardener, it is absolutely necessary to stir up the fillers in the resin component thoroughly (exceptions: Epoxy Resin Putty and Casting Resin MS 1000).

Thoroughly mix the components for at least 4 minutes (type SF: 2-3 minutes) to get a uniform mixture. Avoid the formation of bubbles. Do not mix more than you are able to use within the pot life. If container is partly used, it is to be kept tightly closed. Strictly observe the specified mixing ratio (tolerance max. +/- 2%).

The quoted pot life times refer to mixtures of approx. 200 g. Larger quantities will cure faster due to the typical heat reaction of epoxy resins (exothermal reaction). WEICON Plastic Metals should be used at room temperature (approx. 20°C). Pot life and cure time will be reduced at higher temperatures. (Rule of thumb: Every increase of 10°C above room temperature leads to a reduction of pot life and cure time by 50%). At temperatures below +16°C, the pot life and cure time will slow down; below approx. +5°C no reaction between resin and hardener will take place any more.\* Depending on the type, WEICON Plastic Metal can be machined or demoulded after 2 hours (min.) resp. 16 hours (max.) at room temperature. Final cure of all types is reached after 24 hours (at room temperature). Only the type Weidling C should afterwards be temper-hardened step by step. In low temperature environments the cure time can be speeded up by the influence of heat, max. +40°C (heat lamp, hot air fan). Do not use open flame!

\* To achieve a permanently high temperature resistance, we recommend to temper-harden after 48 hours as detailed below:

Type Weidling C  
2 h at +40°C, 2 h at +60°C, 2 h at +80°C, 2 h at +100°C,  
finally 14 h at +120°C

Types WEICON Ceramic W and WEICON TI  
3 h at +50°C, 2 h at +90°C, 2 h at +130°C,  
finally 1 h at +170°C

## Storage

WEICON Plastic Metal at room temperature (but up to max. +25°C) in a dry place. Unopened containers can be stored for 18 months at temperatures from +18°C to +25°C (Epoxy Resin Putty max. 3 years). Opened containers should be used within 6 months.

## Note

Any product specifications and recommendations given herein must not be seen as guaranteed product characteristics. They are based on our laboratory tests and on practical experience. Since individual application conditions are beyond our knowledge, control and responsibility, this information is provided without any obligation.

We do warrant the continuously high quality of our products being free

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from defects in accordance with and subject to our General Sales Conditions. However, own adequate laboratory and practical tests to find out if the product in question meets the requested properties are recommended. A claim cannot be derived from them. The user bears the only responsibility for non-appropriate or other than specified applications.

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