

HYDRALLOY® C

GfE Art. No. 2019929 / 2005169 / 2004732

Application

The trademark “Hydralloy” describes a group of alloys which are capable to absorb Hydrogen from the gas phase at low temperatures and gas pressures and to form reversible metal hydrides.

Therefore, these materials are considered as suitable candidates for the storage of hydrogen e.g. in fuel cell systems.

The Hydralloy® C group is a low temperature AB₂ type hydride alloy for applications at ambient temperature.

Production Method

Vacuum induction melting

Density

approx. 6.3 kg/dm³

Available sizes of Hydralloy® C5:

0 - 2 mm (GfE Art. No. 2019929)

0 - 10 mm (GfE Art. No. 2005169)

2 - 10 mm (GfE Art. No. 2004732)

Allowance for under-/oversize up to 5%.

Tap Density

approx. 3.5 kg/dm³

(as rough order of magnitude)

Pouring Density

approx. 3.1 kg/dm³

(as rough order of magnitude)

Packaging

In sealed steel drums

Chemical Analysis in wt%

Ti + Zr 25 - 35

Mn 45 - 55

V + Fe 15 - 20

Further possible alloying elements:
Cr, Ni

Typical Properties of the C5 Hydride:

Mid plateau pressure of absorption:
approx. 10 - 15 bar @ 20 °C

Mid plateau pressure of desorption:
approx. 5 - 10 bar @ 20 °C

Maximum storage capacity:
approx. 1.8 wt% @ 20 °C

Filling (charging) pressure:
15 – 25 bar @ 20 °C
(for rapid filling cooling is recommended)