

**VDM Metals**

A company of ACERINOX

# **VDM® Aeterna® 3741**

## **CuZn35Mn2Si**

---

**Data sheet VDM® Aeterna® 3741**

February 2024

# VDM® Aeterna® 3741

## CuZn35Mn2Si

VDM® Aeterna® 3741 is a special brass lead-free alloy based on the well-established VDM® Aeterna® HLZ 3740 alloy. This lead-free alloy is increasingly being used in axial piston pumps, as it is well established in this area due to its sliding properties and high strength.

VDM® Aeterna® 3741 is characterized by:

- good sliding properties
- high wear resistance
- high resilience
- high fatigue strength
- high cavitation resistance
- good machinability

### Nomenclature

Standardization	General Material Designation
D	VDM® Aeterna® 3741
EN Material-Nr.:	Special lead-free alloy
Description	CuZn35Mn2Si

Table 1 - Nomenclature

# Chemical Composition

		Cu	Zn	Pb	Fe	Mn	Ni	Al	Si	Sn	Other
Mass- percentage	Min.	60,0	Rem.	-	-	1,8	-	-	0,5	-	-
	Max.	63,5	Rem.	< 0,1	0,5	2,8	0,5	0,5	1,8	0,08	0,5

Table 2 - Chemical composition (wt. %)

# Physical Properties

Density	Melting range
8,3 g/cm <sup>3</sup>	820 - 880 °C

Temperatur	Heat conductivity	Electrical conductivity	Young's modulus	Coefficient of thermal expansion
°C	$\frac{W}{m \cdot K}$	$\frac{MS}{m}$	$\frac{kN}{mm^2}$	$\frac{10^{-6}}{K}$
20	76	10	100	19,5

Table 3 - Typical physical properties of VDM® Aeterna® 3741 alloy

# Mechanical Properties

Condition	Dimension	Yield strength R <sub>p 0,2</sub>	Tensile strength R <sub>m</sub>	Elongation A5	Brinell-Hardness HB 2,5/62,5
	[mm]	[MPa]	[MPa]	[%]	min.
R490	< Ø 10	310 - 480	490 - 530	10 - 20	130 - 165

Table 4 - Typical mechanical properties of VDM® Aeterna® 3741 alloy

# Applications

Characterization and typical areas of application of lead-free VDM® Aeterna® 3741:

- The material is characterized by its good cavitation resistance and very good machinability
- Synchronizer rings
- Axial piston pumps:
  - Bearing bushes
  - Holding segments

# Imprint

February 2024

**Publisher**

VDM Metals International GmbH  
Plettenberger Straße 2  
58791 Werdohl  
Germany

**Disclaimer**

All information contained in this data sheet are based on the results of research and development work carried out by VDM Metals International GmbH, and the data contained in the specifications and standards listed available at the time of printing. The information does not represent a guarantee of specific properties. VDM Metals reserves the right to change information without notice. All information contained in this data sheet is compiled to the best of our knowledge and is provided without liability. Deliveries and services are subject exclusively to the relevant contractual conditions and the General Terms and Conditions issued by VDM Metals International GmbH. Use of the most up-to-date version of this data sheet is the responsibility of the customer.

VDM Metals International GmbH  
Engineered Solutions  
Zeilweg 42  
60439 Frankfurt am Main  
Germany

Telefon +49 (0)69 5802-0  
Fax +49 (0)69 5802-159

[es-sales.vdm@vdm-metals.com](mailto:es-sales.vdm@vdm-metals.com)