

VDM Metals

A company of ACERINOX

VDM[®] Aeterna[®] 3838

CuZn40Al2Mn2Si

Data sheet VDM[®] Aeterna[®] 3838

December 2023

VDM® Aeterna® 3838

CuZn40Al2Mn2Si

VDM® Aeterna® 3838 ist eine Sondermessinglegierung, die vorwiegend im Bereich der Gleitanwendungen insbesondere der Axiallager und Axialkolbenpumpen eingesetzt wird.

VDM® Aeterna® 3838 zeichnet sich aus durch:

- sehr gute Lauf- und Gleiteigenschaften
- hohe Kavitationsbeständigkeit
- hohen Verschleißwiderstand
- hohe Belastbarkeit
- hohe Dauerfestigkeit
- gute Zerspanbarkeit

Nomenclature

Standardization	General Material Designation
D	VDM® Aeterna® 3838
EN Material-Nr.:	Special alloy
Description	CuZn40Al2Mn2Si

Table 1 - Nomenclature

Chemical Composition

		Cu	Zn	Pb	Fe	Mn	Ni	Al	Si	Sn	Other
Mass- percentage	Min.	56,0	Rem.	-	-	2,2	-	1,0	0,5	-	-
	Max.	59,0	Rem.	0,6	0,5	2,8	0,5	2,0	1,5	0,5	0,5

Table 2 - Chemical composition (wt.%)

Physikalische Eigenschaften

Density	Melting range
8,2 g/cm ³	880 - 910 °C

Temperature	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	60	9	100	19

Table 3 - Typical physical properties of VDM® Aeterna® 3838 alloy

Mechanical Properties

Condition	Dimension	Yield stress	Tensile strength	Elongation	Brinell-Hardness
		R _{p 0,2}	R _m	A5	HB 2,5/62,5
	[mm]	[MPa]	[MPa]	[%]	
forged	longitudinal direction	280	590	12	150-185
	Cross direction	250	530	8	150-185

Table 4 - Typical mechanical properties of VDM® Aeterna® 3838 alloy

Application areas

Typical areas of application for VDM® Aeterna® 3838 are:

- in cavitation areas also in water turbines or propellers
- In the area of sliding applications such as bearings
- Axial piston pumps:
 - Distribution plates
 - Bearing bushes
 - Holding segments

Imprint

Dezember 2022

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 compiled to the best of our knowledge and 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