

# **VDM® Aeterna® 3838**

## **CuZn40Al2Mn2Si**

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VDM® Aeterna® 3838 is a special brass alloy that is primarily used in the area of sliding applications, especially axial bearings and axial piston pumps.

VDM® Aeterna® 3838 is characterized by:

- very good running and gliding properties
- high cavitation resistance
- high wear resistance
- high resilience
- high fatigue strength
- good machinability

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 <sup>3</sup>	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 R <sub>p 0,2</sub> [MPa]	Tensile strength R <sub>m</sub> [MPa]	Elongation A5 [%]	Brinell-Hardness HB 2,5/62,5
forged	longitudinal direction	280	590	12	150
	Cross direction	250	530	8	150

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

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