

**VDM® Aeterna® HLS 3805**  
CuZn38Mn2NiSi

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## CuZn38Mn2NiSi

VDM® Aeterna® HLS 3805 is a special brass alloy, suitable for sliding as well as for high cavitation applications.

This alloy is characterized by:

- very good running and sliding properties
- high resistance to cavitation
- high wear resistance
- high fatigue strength
- high load capacity
- good machinability

### Nomenclature

Standardization	General Material Designation
D	VDM® Aeterna® HLS 3805
EN Material-Nr.:	Special alloy
Description	CuZn38Mn2NiSi

Table 1 - Nomenclature

# Chemical Composition

		Cu	Zn	Pb	Fe	Mn	Ni	Al	Si	Sn	Other
Mass percentage	Min.	55,5	Rest	0,5	-	1,8	1,5	-	0,5	-	
	Max.	58,5	Rest	0,8	0,3	2,8	2,6	0,2	1,8	0,5	0,5

Table 2 - Chemical composition (wt.%)

# Physikalische Eigenschaften

Density	Melting range
8,3 g/cm <sup>3</sup>	850 - 890 °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	80	13	117	19,5

Table 3 - Typical physical properties of VDM® Aeterna® HLS 3805 alloy

# Mechanical Properties

Condition	Dimension	Yield stress	Tensile strength	Elongation	Brinell-Hardness
	[mm]	R <sub>p 0,2</sub> [MPa]	R <sub>m</sub> [MPa]	A <sub>5</sub> [%]	HB 2,5/62,5
pressed	< Ø 60	300	510	15	135 - 170
forged, H140	< Ø 120	300	510	12	140 - 170

Table 4 - Typical mechanical properties of VDM® Aeterna® HLS 3805 alloy

# Applications

Typical areas of application for VDM® Aeterna® HLZ 3805 are:

- Sliding applications
  - Bearings
  - Sliding shoes
  
- Axial piston pumps:
  - Distribution plates
  - Bearing bushes
  - Holding segments

# Imprint

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