

VDM Metals

A company of ACERINOX

VDM[®] Aeterna[®] HLS 3805

CuZn38Mn2NiSi

Data sheet VDM[®] Aeterna[®] HLS 3805

December 2023

VDM® Aeterna® HLS 3805

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	Rem.	0,5	-	1,8	1,5	-	0,5	-	
	Max.	58,5	Rem.	0,8	0,3	2,8	2,6	0,2	1,8	0,5	0,5

Table 2 - Chemical composition (wt.%)

Physical Properties

Density	Melting range
8,3 g/cm ³	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 _{p 0,2} [MPa]	R _m [MPa]	A ₅ [%]	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

Application areas

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

December 2023

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