

VDM® Aeterna® HLZ 3740
CuZn35Mn2Si

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VDM® Aeterna® HLZ 3740 is a special brass alloy that is particularly suitable for applications with high cavitation. This 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® HLZ 3740 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® HLZ 3740
EN Material-Nr.:	special alloy
Description	CuZn35Mn2Si

Table 1 - Nomenclature

Chemical Composition

		Cu	Zn	Pb	Fe	Mn	Ni	Al	Si	Sn	Other
Mass- percentage	Min.	60,0	Rem.	0,1	-	1,8	-	-	0,5	-	-
	Max.	63,5	Rem.	0,8	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 ³	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® HLZ 3740 alloy

Mechanical Properties

Condition	Dimension	Yield strength R _{p 0,2}	Tensile strength R _m	Elongation A ₅	Brinell-Hardness HB 2,5/62,5
	[mm]	[MPa]	[MPa]	[%]	min.
R490	Ø 10-60	310	490	10	135
R560	Ø 10-30	400	560	6	150

Table 4 - Typical mechanical properties of VDM® Aeterna® HLZ 3740 alloy

Application

Characterization and typical areas of application of VDM® Aeterna® HLZ 3740:

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

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