

VDM® Aeterna® 2805
CuZn28Al4Ni3Co1Si1Mn

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VDM® Aeterna® 2805 is a special brass alloy, which is particularly suitable for applications with high requirement on running and sliding properties. High strength and high wear resistance describe this alloy.

VDM® Aeterna® 2805 is characterized by:

- very good gliding properties
- high strength and hardness
- high wear resistance
- high load capacity
- very high fatigue strength
- high cavitation resistance

Nomenclature

Standardization	General Material Designation
D	VDM® Aeterna® 2805
EN Material-Nr.:	Special alloy
Description	CuZn27Al4Ni3Co1Si1Mn

Table 1 - Nomenclature

Chemical Composition

		Cu	Zn	Pb	Fe	Mn	Ni	Al	Si	Co	Other
Mass percentage	Min.	58,5	Rem.	0,1	0,8	0,8	2,0	3,8	0,5	0,5	-
	Max.	63,0	Rem.	0,8	1,3	1,5	3,8	4,5	2,0	2,3	0,5

Table 2 - Chemical composition (wt.%)

Physical Properties

Density	Melting temperature
8,0 g/cm ³	1030 °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	9,5	105	20

Table 3 - Typical physical properties of VDM® Aeterna® 2805 alloy

Mechanical Properties

Condition	Dimension	Yield strength	Tensile strength	Elongation	Brinell-Hardness
		R _{p 0,2}	R _m	A5	HB 2,5/62,5
	[mm]	[MPa]	[MPa]	[%]	min.
pressed	Ø 40-80	400	600	4	160
drawn extruded	Ø 20-40	450	650	5	175
forged	-	400	600	4	180

Table 4 – Typical mechanical properties of VDM® Aeterna® 2805 alloy

Applications

Typical applications of the special alloy VDM® Aeterna® 2805:

- Sliding applications
 - Bearings

- Synchronizer rings

- Axial piston pumps:
 - Sliding shoe
 - Bearing bushes
 - Holding Segments

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