



FERRY CAPITAIN

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MATERIAL DATA SHEET REFRACTORY STEEL MATERIAL FOR AEROSPACE PLATENS

FERRYNOX 36S

Description

The Ferrynox 36S is the result of an important internal development at **FERRY CAPITAIN**. This refractory alloy is enhanced through the use of a 15-ton capacity AOD converter, resulting in materials with low levels of residual elements and superior mechanical properties and very high creep rupture values.

Application

This material is mainly used in the **Aerospace** field for Super Plastic Forming or Hot Forming Platens. In general, components subject to frequent thermal cycle shocks and high temperature fields.

Chemical Composition

Cast Analysis			
FC Reference	%Ni	%Cr	Others elements
FerryNox 36S	34-38	21-29	-

Density : 8

Physical Properties

FC Reference	Temperature (°C)	Mean coefficient of thermal expansion (m/m.°C)
Ferrynox 36S	Between 20°C and 500°C	15,80. 10 ⁻⁶
	Between 20°C and 700°C	16,60. 10 ⁻⁶
	Between 20°C and 925°C	17,35. 10 ⁻⁶
	Between 20°C and 1093°C	17,99. 10 ⁻⁶



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Mechanical properties

HARDNESS	190 HB
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Creep Properties				
FC Reference	Temperature (°C)	Stress rupture (MPa)		Creep rate 1% (MPa)
		250h	1000h	1000h
Ferrynox 36S	925°C	37	33	22

Tensile Test				
FC Reference	Temperature (°C)	Tensile Strength (Mpa)	Yield Point (Mpa)	Elongation (%)
Ferrynox 36S	20°C	380	280	3
	850°C	195	130	15
	925°C	140	99	19
	980°C	120	90	24

Weldability

Ferrynox 36S can be welded, **FERRY CAPITAIN** make available a complete welding procedure specific to this material.