



FERRY CAPITAIN
BP33 F52300 JOINVILLE FRANCE
Tel. : +33 3.25.94.04.24
Mail. : fc.aerospace@ferrycapitain.fr



MATERIAL DATA SHEET MATERIAL FOR **AEROSPACE** INVAR TOOLS

FERRYNOX N33

Description

The Ferrynox N33 is the result of an important internal development at **FERRY CAPITAIN**. The Production of low thermal expansion alloys is enhanced through a perfect control of residual elements allowing the achievement of a low CTE.

Application

This material is mainly used in the **Aerospace** field requiring tools with a very low coefficient of expansion.

Chemical Composition

Cast Analysis			
FC Reference	%Ni	%Co	Fer
FerryNox N33	33	4	Base

Density : 7,5

Physical Properties

FC Reference	Temperature (°C)	Mean coefficient of thermal expansion (m/m.°C)
Ferrynox N33	Between 20°C and 50°C	1,8. 10 ⁻⁶
	Between 20°C and 150°C	3,6. 10 ⁻⁶
	Between 20°C and 180°C	4,3. 10 ⁻⁶
	Between 20°C and 200°C	4,8. 10 ⁻⁶



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Mechanical properties

Tensile Test				
FC Reference	Temperature (°C)	Tensile Strength (Mpa)	Yield Point (Mpa)	Elongation (%)
Ferrynox N33	20°C	430	270	17
	180°C	340	140	20

Weldability

Ferrynox N33 can be welded, **FERRY CAPITAIN** make available a complete welding procedure specific to this material.

We developed cold welding; it allows the welding of accessories on parts.