

INVAR 36 WELDED PIPE



Key Features - Cryogenic Applications

- Process piping per ASME B31.3 and ASTM A999
- Base metal per ASTM F1684
- Nondestructive inspection per ASNT-TC-1A
- Impact testing of base metal & welds

Key Features - Tooling Applications

- Pipe base metal per Boeing D33028-2
- Custom wall thicknesses available
- Quick turn around

AVAILABLE SIZES	Pipe Sizes	3.0" - 12.0"
	Pipe Schedules	5, 10 & 40
	Tubing Custom Walls	0.25", 0.375" & 0.50"
	Length	20.0 ft RL

CHEMISTRY

Typical Percent by Weight

Element	Symbol	Percentage
Carbon	C	0.02%
Manganese	Mn	0.35%
Silicon	Si	0.20%
Nickel	Ni	36.00%
Iron	Fe	BAL.
Sulphur	S	0.002%
Phosphorus	P	0.002%

COEFFICIENT OF THERMAL EXPANSION

Temperature		Mean Linear Coefficient	
°F	°C	In/in°F x 10 ⁻⁶	cm/cm°C x 10 ⁻⁶
-396	-220	0.80	1.50
-216	-120	0.70	1.30
200	93	0.72	1.30
300	149	1.17	2.11
500	260	2.32	4.18
700	371	4.22	7.60