



Manoir Petrochem & Nuclear Business Unit

Manaurite 50/50 Nb

Heat resistant alloys for hydrocarbon processing

Manoir Industries – 12 rue des Ardennes – BP 8401 – Pîtres – 27108 VAL DE REUIL Cedex – France
up-dating on Oct. 2012 & available on

http://www.manoir-industries.com/site/ref/scripts/FR_Brochures-Petrochem_122.html

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MANAURITE 50 / 50 Nb (standard)

Service: Sulphur chemical industries

Items: Centrifugally cast tubes & Statically cast fittings

Analysis: as shown on certificates

Element	Minimum	Maximum
C	-	0.10
Mn	0.10	0.30
Si	0.20	0.30
P	-	0.020
S	-	0.015
Ni	48.0	50.0
Cr	48.0	50.0
Nb	1.40	1.70
Fe	-	1.0

U.T.S. \geq 550 MPa

Y.S. \geq 250 MPa

E \geq 8%

MANAURITE 50/50 Nb

MECHANICAL PROPERTIES

1 • At room temperature

(minimum values)

Tensile strength:	550 MPa	79.7 ksi
Yield strength:	250 MPa	36.2 ksi
Elongation (on 4d):	8%	

2 • Mechanical properties at high temperatures - short time tests

Temperature °C	Y.S.		U.T.S.		E %
	MPa	ksi	MPa	ksi	
600	180	26	470	68	29
700	200	29	390	56.5	20
800	220	32	370	53.6	13

(typical values)

3 • Mechanical properties at high temperatures - long time tests

Temperature °C	Average initial stress for rupture					
	1 000 h		10 000 h		100 000 h	
	MPa	ksi	MPa	ksi	MPa	ksi
700	166	24	108	15.6	73	10.6
800	69	10	49	7.1	31	4.55
900	31	4.5	21	3.1	12	1.76
1000	14	2	4.5	0.65	2.6	0.375

(typical values)



Manoir Pitres

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Manoir Yantai

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