Manaurite® 50W

MANOIR
A PARALLOY GROUP COMPANY

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CHEMICAL COMPOSITION

Bellow table shows typical chemical composition of Manaurite ® 50W. These values can vary for specific applications.

Element	Minimum	Maximum
C	0.35	0.45
Mn	0.5	1.50
Si	0.5	2.0
Ni	47.0	50.0
Cr	27.0	30.0
W	4.0	5.5

PHYSICAL PROPERTIES

Density at 20°C: 8.2 kg/dm^3

Mean coefficient of thermal expansion between 20°C and 1 000°C: 16.8 mm/mm/°C

MECHANICAL PROPERTIES

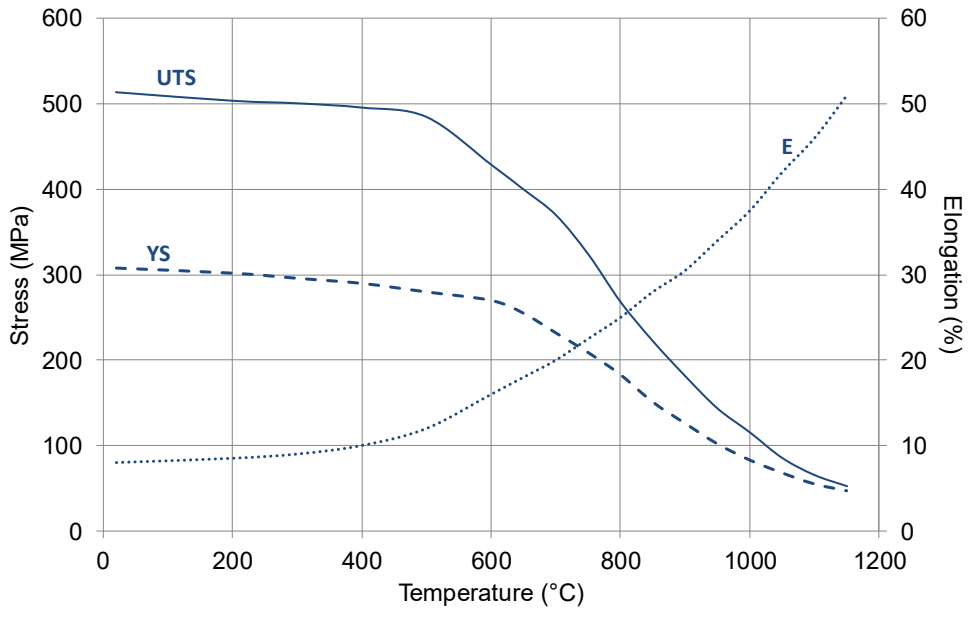
Minimum tensile properties at 20°C are:

U.T.S. ≥ 448 MPa *

Y.S. ≥ 290 MPa

E ≥ 5% for spuncast tubes *

(for specific applications UTS up to 490 MPa and E limited to 4%)

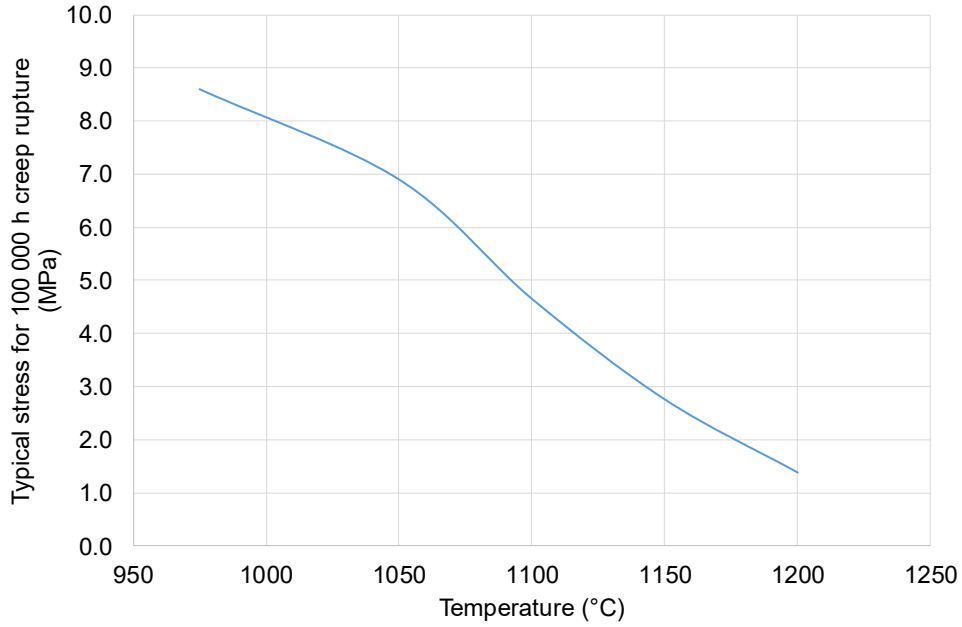


Creep properties

The creep resistance of Manaurite® 50W is due to the formation of chromium- and tungsten-containing carbides. The high stability of these carbides greatly promotes the mechanical properties of Manaurite® 50W at very high temperature (over 1 100°C).

Typical creep rupture properties of Manaurite® 50W are reported below.

Temperature in °C	Average initial stress for 100 000 h creep rupture	Initial stress for a crepp rate of 0.0001% / h
975	8.60 MPa	-
1 050	6.90 MPa	12.1 MPa
1 100	4.65 MPa	7.7 MPa
1 150	2.75 MPa	4.2 MPa
1 200	1.40 MPa	2.1 MPa



MANOIR FRANCE

Future is our raw material.

As a metal processing specialist, Manoir Industries develops alloys and operates processes for the manufacture of high-performance components. Known and recognised for several decades, its know-how is complemented by its expertise in casting, forging, boilermaking, welding and assembly. Manoir's solid technical expertise continues to drive its sustainable leading position, offering innovative services to its customers worldwide as a true partner.

T : +33 (0) 2 32 48 72 00 | E : sales.petrochem@manoir.eu.com | www.manoir.eu.com