

PARALLOY RED-W

26/46/4.0 Cr/Ni/W 0.5% C + addition

Cast Heat Resisting Alloy

Direct Reduction

APPLICATION

PARALLOY RED-W is a variation of **PARALLOY H48T** specially developed for the DRI application related to Midrex type Reformer design.

PARALLOY RED-W tailored chemistry allow not only exposure to temperature up to 1200°C in conditions where the maximum resistance to carburisation and oxidation are required, but also give it a good resistance to fatigue cycle, and creep fatigue allow to possess a good ductility, particularly a good creep ductility, and hot temperature ductility which can accommodate

DESCRIPTION

PARALLOY RED-W Brings the advantages of combining good creep resistance at high temperature and the ability to endure repetitive temperature cycles.

BENEFITS

PARALLOY RED-W Has good ductility along with its high temperature creep, this makes this material an ideal choice. The hot temperature ductility adds to its stability in service. Increased strength at high temperature gives the material the ability to accommodate creep and fatigue which is often encountered during plant operations.

NOMINAL COMPOSITION%

C	Si	Mn	Cr	Ni	W
0.5	2.0	1.2	26	46	4.0



PHYSICAL PROPERTIES

COEFFICIENT OF THERMAL EXPANSION (mm/mm°C)	THERMAL CONDUCTIVITY (W/m°K)	DENSITY (kg/m³)	SPECIFIC HEAT (J/KGK)
20 - 100°C - 15.5 x 10 ⁻⁶	100°C - 14.2	8.15 x 10 ³	49
20 - 800°C - 17.8 x 10 ⁻⁶	800°C - 23.9		
20 - 1000°C - 18.2 x 10 ⁻⁶	1000°C - 26.4		
20 - 1100°C - 18.5 x 10 ⁻⁶	1100°C - 27.6		

PARALLOY RED-W

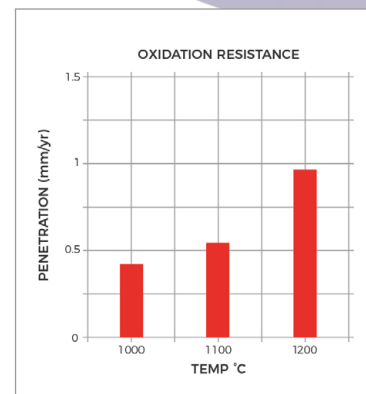
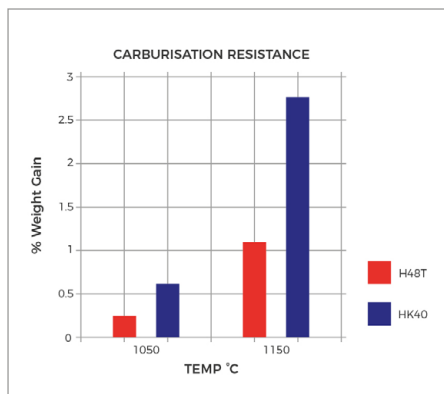
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MECHANICAL PROPERTIES

ROOM TEMPERATURE TENSILE PROPERTIES (Minimum Values)

UTS (N/mm ²)	500
Proof Stress 0.2% (N/mm ²)	300
Elongation (%)	7 (tube)



In this severe test an oxidation rate of 1.3mm/yr in air is considered to be satisfactory

ELEVATED TEMPERATURE TENSILE PROPERTIES (Typical Values)

TEMPERATURE (°C)	UTS (N/mm ²)	PROOF STRESS 0.2% (N/mm ²)	ELONGATION (%)
900	180	110	30
950	145	95	50
1000	105	80	55
1100	80	55	55

CREEP RUPTURE STRESS (N/mm²)

TEMP	10,000 HOUR LIFE		50,000 HOUR LIFE		100,000 HOUR LIFE	
	MEAN	Minimum	MEAN	Minimum	MEAN	Minimum
°C						
900	29,89	27,32	24,88	22,74	22,84	20,87
950	22,15	20,25	17,63	16,11	15,85	14,49
1000	15,53	14,19	11,77	10,76	10,36	9,47
1050	10,29	9,41	7,41	6,77	6,38	5,83
1100	6,45	5,89	4,40	4,02	3,69	3,38
1150	3,82	3,49	2,46	2,25	2,02	1,84
1200	2,14	1,96	1,30	1,19	1,03	0,95

Note: Creep curves are subject to periodic review as new test data is added.