PARALLOY H20

25/20 Cr/Ni 0.4% C

Cast Heat Resisting Alloy

NOMINAL COMPOSITION%				
C	Si	Mn	Cr	Ni
0.4	1.3	1	25	20

APPLICATION

PARALLOY H20 was primarily developed for use in many high temperature services, principally Catalyst Reformer Tubes where the creep strength of H20 permits operation up to 950°C.

Higher silicon grade, PARALLOY H21, has improved carburisation resistance and is the standard alloy for medium duty Steam Cracker and Heater Coils operating up to 1025°C.

PARALLOY H20 is also widely used for general furnace components such as Hangers, Tube Supports and also Furnace Rollers up to 1050°C.

PARALLOY H20 conforms to the requirements of: ASTM A297 "HK", ASTM A351 and A608 "HK40"

DESCRIPTION

Paralloy H20 is a weldable chromium-nickel heat-resisting alloy, which corresponds to the material known generally as "HK40".

H20 is the "classical" heat resisting alloy designed many years ago for centrifugally and statically cast furnace components.

The high alloy content, in combination with the high carbon levels, gives good Creep Strength, Carburisation and Oxidation Resistance.

The alloy is readily welded by metal arc (SMAW) or inert gas shielded arc (GTAW and GMAW) welding processes using matching filler material.

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 x 10^{-6}	100°C – 14.2	7.75 x 10^{3}	455
20 – 800°C – 17.6 x 10^{-6}	800°C – 20.5		
20 – 1000°C – 18.0 x 10^{-6}	1000°C – 23.9		
20 – 1100°C – 18.2 x 10^{-6}	1100°C – 27.2		

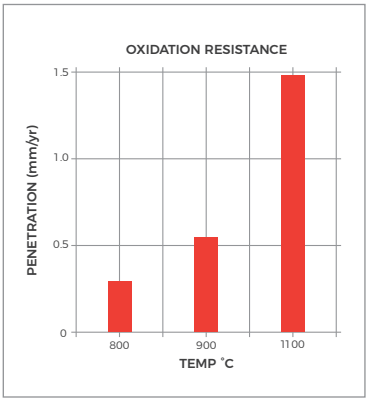
PARALLOY H21

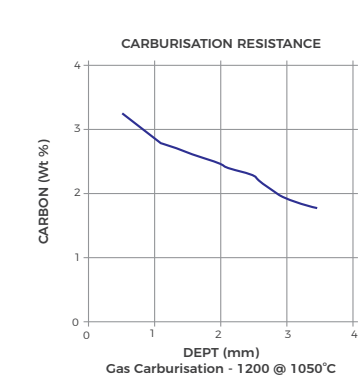
25/20 Cr/Ni + Si 0.4% C

Cast Heat Resisting Alloy

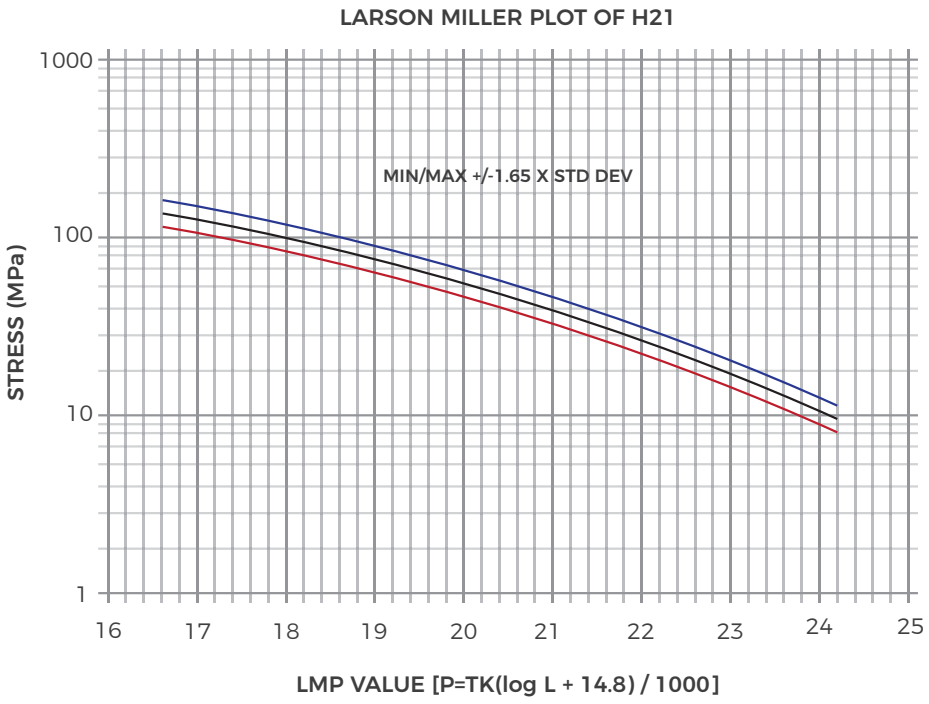
MECHANICAL PROPERTIES

ROOM TEMPERATURE TENSILE PROPERTIES (Minimum Values)	
UTS (N/mm²)	450
Proof Stress 0.2% (N/mm²)	245
Elongation (%)	10





ELEVATED TEMPERATURE TENSILE PROPERTIES (Typical Values)			
TEMPERATURE (°C)	UTS (N/mm²)	PROOF STRESS 0.2% (N/mm²)	ELONGATION (%)
800	234	185	22
900	165	126	32
1000	81	67	45
1100	33	24	59



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