


Thermanit MTS 4 Si

GTAW rod / wire

Classifications	EN 12070	AWS A 5.9					Mat. No.	
	W CrMoWV12Si	ER505 (mod.)					1.4937	
Characteristics and field of use	High temperature resistant up to 550 °C (1022 °F), resistant to scaling up to 600 °C (1112 °F). For surfacing and joining applications on 12 % Cr steels/cast steel grades suitable for quenching and tempering.							
Marks	 W CrMoWV12Si / 1.4937							
(Rods only)								
Materials	TÜV certified parent metals X20CrMoV12-1 (1.4922) X23CrMoWV12-1 (1.4937) matching high temperature resistant steels: 1.4922 X20CrMoV12-1, 1.4935 X20CrMoWV12-1; 1.4923 X22CrMoV12-1; 1.4913 X19CrMoVNb11-1 (Turbotherm, 20MVNb), 1.4931 GX22CrMoV12-1							
Typical analysis of welding rod in %	C	Si	Mn	Cr	Mo	Ni	W	V
	0.20	0.3	0.6	11.0	1.0	0.4	0.5	0.3
Creep and stress rupture properties	In the range of matching high temperature resistant parent materials							
Mechanical properties of the weld metal according to EN 1597-1	Heat-treatment	Yield strength 0.2% N/mm²		Tensile strength N/mm²		Elongation (L ₀ =5d ₀) %		Impact values in J CVN
(min. values at RT)	760 °C / 4 h	590		700		15		35
Structure	Martensite, suitable for quenching and tempering, ferrite-free							
Welding instruction								
Materials	Preheating	Postweld treatment						
High-temperature resistant martensitic steels/cast steel grades	According to wall thickness: 250-450 °C (482-842 °F)	For smaller welding jobs, cool slowly to 120 °C (248 °F) (i.e. furnace). Tempering for approx. 4h 720-760 °C (1328-1400 °F) / air or quench and temper 1050 °C (1922 °F) / air or oil + 4h 700-760 °C (1292-1400 °F) / air. For larger welding jobs: intermediate stress-relieving at first from welding temperature 2h 550 °C (1022 °F) max. 580 °C (1076 °F) cool slowly to 120 °C (248 °F), tempering or quenching and tempering as above						
	Polarity = – Shielding gas (EN 439) I1							
Approvals	TÜV (Certificate No. 2624)							
Packaging and weights	Diam. x Length (mm)				kg / pack			
	2 4 x 1000				10			