Assab Steels 705M Machinery Steel

Category : Metal , Ferrous Metal , Alloy Steel

Material Notes:

ASSAB 705M is an alloyed machinery steel with good hardenability also in heavier sizes. As standard ASSAB 705M is supplied tough hardened with no further heat treatment required. It can be oil hardened to higher mechanical properties if required. Applications: ASSAB 705M is suitable for induction hardening and can also be nitrided or tuffrided to a surface hardness of 600-650 Vickers.ASSAB 705M is not suitable for welding but can with certain precautions be repair welded. AISI /SAE 4340, DIN 34CrNiMo6, W.nr. 1.6582, BS 817M40 (EN 24), AFNOR 35NCD6, JIS SNCM8, SS 2541

Order this product through the following link:
http://www.lookpolymers.com/polymer_Assab-Steels-705M-Machinery-Steel.php

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	240	240	700°C tempering temperature. Quenching in oil ø 120. Testpiece hardened by oil quenching from 850°C.
	275 - 335	275 - 335	Hardness supplied approx.
	320	320	500°C tempering temperature. Quenching in oil ø 120. Testpiece hardened by oil quenching from 850°C.
Hardness, Rockwell C	40	40	tempering temperature 500°C. Hardened by oil quenching.
	43 - 55	43 - 55	30 mm from the quenched end.
	50	50	tempering temperature 200°C. Hardened by oil quenching.
	49 - 58	49 - 58	10 mm from the quenched end.
Tensile Strength at Break	790 MPa	115000 psi	R_m. 700°C tempering temperature. Quenching in oil ø 120. Testpiece hardened by oil quenching from 850°C.
	1100 MPa	160000 psi	R_m. 500°C tempering temperature. Quenching in oil ø 120. Testpiece hardened by oil quenching from 850°C.
Tensile Strength, Ultimate	900 - 1100 MPa	131000 - 160000 psi	Rm
Tensile Strength, Yield	690 MPa	100000 psi	R_e. 700°C tempering temperature. Quenching in oil ø 120. Testpiece hardened by oil quenching from 850°C.
	700 MPa	102000 psi	min. Re.
			R_e. 500°C tempering

Mechanical Properties	Metric	English	Comments
	975 MPa	141000 psi	temperature. Quenching in oil ø 120. Testpiece hardened by oil quenching from 850°C.
Elongation at Break	>= 12 %	>= 12 %	
	13 %	13 %	5XD. 500°C tempering temperature. Quenching in oil ø 120. Testpiece hardened by oil quenching from 850°C.
	20 %	20 %	5XD. 700°C tempering temperature. Quenching in oil ø 120. Testpiece hardened by oil quenching from 850°C.
Reduction of Area	42.5 %	42.5 %	500°C tempering temperature. Quenching in oil ø 120. Testpiece hardened by oil quenching from 850°C.
	>= 45 %	>= 45 %	
	63 %	63 %	700°C tempering temperature. Quenching in oil ø 120. Testpiece hardened by oil quenching from 850°C.
Impact Test	>= 20.0 J	>= 14.8 ft-lb	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.36 %	0.36 %	
Chromium, Cr	1.4 %	1.4 %	
Iron, Fe	95.69 %	95.69 %	
Manganese, Mn	0.70 %	0.70 %	
Molybdenum, Mo	0.20 %	0.20 %	
Nickel, Ni	1.4 %	1.4 %	
Silicon, Si	0.25 %	0.25 %	

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