PASARGAD ALLOY STEEL

MATERIAL SPECIFICATION SHEET

PASCO-42CrMo4

Material No:
1.7225

Material Group
Alloy Special Structural Steels

International steel grades

USA	4140
AFNOR	42CD4
DIN	42CrMo4

Chemical composition is according to the DIN EN 10083-3.

Chemical Composition:
(Typical Analysis in Wt. %)

Steel Grade	C	Mn	Si	P	S	Cr	Mo
42CrMo4	0.4	0.76	0.25	0.02	0.005	1	0.2

Application: Used to make high-strength parts of compressors, turbines, working elements of heavy ground and underground equipment, and parts of agricultural machines

Hot Forming and Heat Treatment Temperature

Hot Working	850-1100 °C
Soft Annealing	680-720 °C/Furnace
Normalizing	850-860 °C/Air
Austenitizing	850 °C
Quenching Media	Oil/Water/Polymer
Tempering	600 °C/Air

Delivery Condition	As Rolled
Dimensional Tolerance	According to the EN 10060
ASTM Grain Size Number	5-10
Cleanliness Test	K4<10 according to the DIN 50602
Bulk Hardness Test (HBW)	220-330
Surface Quality	Class D according to the EN 10221

Hardenability (Jominy Test according to the ISO 642)

Standard	Austenitizing Temperature	Distance (mm)	1.5	3	5	7	9	11	13
EN 10084	870°C	HRC	59	58	57.5	57	57	56	55
		Distance (mm)	15	20	25	30	35	40	45
		HRC	54	50	48	51.8	45	42	40

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Tensile Test

Size mm	Quenching Temperature	Yield Strength Re	Tensile Strength Rm	Elongation A	Red. Area Z
mm	°C	N/mm^2	N/mm^2	%	%
>16-40		750	1000	11	45
>40-100	820-880	650	900	12	50
>100-160		550	800	13	50