

# TECHNICAL GUIDE

## 416S11 / 1.4005

### Steel Description

416S11 / 1.4005 is a martensitic free cutting stainless steel and exhibits a high degree of machinability due to the presence of sulphur and manganese which, when combined to form manganese sulphide inclusions, results in improved & consistent machinability, good tool life and surface finish. Martensitic stainless steels are optimised for hardness which does have the effect of lowering their corrosion resistance and results in poor weldability and formability when compared with other common austenitic grades. 416S11 / 1.4005 is used for valve parts, motor & pump shafts, gears and washing machine parts.

EN 10088-3	BS970: 1991	COLOUR CODE	DESCRIPTION
1.4005	416S21		Martensitic freecutting stainless steel

CHEMICAL ANALYSIS	
Car	0.09 / 0.15
Sil	1.00 max
Mang	1.50 max
Phos	0.060 max
Sul	0.15 / 0.35
Chr	11.5 / 13.5
Moly	0.60 max
Nick	1.00 max

INTERNATIONAL SPECIFICATION COMPARISON	
BRITISH BS 970:1991	416S21
BRITISH BS 970:1955	
GERMAN DIN	
FRENCH AFNOR	
SWEDISH SS	
AMERICAN SAE	
EUROPEAN STEEL NO.	1.4005
EUROPEAN STEEL NAME	X12CrS13
EUROPEAN STANDARD	EN10088-3

QUICK VIEW SYSTEM	
MACHINEABILITY	130
WELDABILITY	Not recommended
HARDENABILITY	Not applicable
SELECTION GUIDE AND USAGE EXAMPLES	Used in mildly corrosive conditions. General engineering applications

SIZE RANGE SUMMARY			
	Rounds	IMP	1/4" - 1.1/4" dia
		MM	10mm - 20mm dia

SEE STOCK RANGE FOR SPECIFIC SIZES.