

MEDIUM CARBON STEEL: KEY STEEL**DSM 1.1.6****Definition:**

A square edged bright drawn medium carbon steel to a specific tolerance and tensile range. It is generally used in the as supplied condition and characterised by good machinability, reasonable weldability and good strength and ductility. Tougher than mild steel, supplied uncoated or zinc plated.

Features:

Designed to be a sacrificial key in a driving torque assembly between shafts and gears. Manufactured to close tolerances to ensure a tight fit in keyways for positive zero backlash in power transmissions.

ASM (DEK) Applications:

Most key and keyway applications in engineering components

These values are representative and should not be considered as definitive. For critical applications, refer to material data-sheet.

TYPICAL MECHANICAL PROPERTIES @25°C	
DENSITY:	7860 Kg/m³
YOUNGS MODULUS:	202 GPa
POISSONS RATIO:	0.29
YIELD STRENGTH	340 MPa Min.
TENSILE STRENGTH	640 MPa Min.

Issue	01	02	03	04	05	06	07	08	09
DCR	7135	30040	44682						



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CHEMICAL ANALYSIS		BENEFIT
Carbon	0.35/0.45	Med. % content: Ductile and strong.
Silicon	0,05/0.35	Increases purity/ quality. (principle deoxidizer)
Mang	0.60/1.00	Combines with sulphur: good machining & finish.
Phos	0.06 max	Increases resistance to corrosion.
Sulphur	0.06 max	Good for machining.

INTERNATIONAL SPECIFICATION COMPARISON	
BRITISH: BS	BS 4235: 1972: 080M30
GERMAN: DIN	C45
AMERICAN: SAE	1045
EUROPEAN STEEL No.	1.4571
JAPANESE GRADE	JIS G S45C
CHINESE GRADE	GB 45

REPLACES

BS970 1955	BS970 1991	COLOUR CODE		DESCRIPTION
EN 6A	080M30			Bright: Med. Carbon

Alternatives:

Alternative materials are allowed only with the express written permission of ASMPT. Please email details of your request to engineering_enquiries@asmpt.com

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These sizes are given in good faith and should not be considered as definitive

Metric Squares (mm)

Up to and inc. 6	+0mm/-0.030mm
Over 6 and up to and inc. 12	+0mm/-0.036mm
over 16	+0mm/-0.043mm

Squares (mm)_Bright Drawn

4	5	6	8	10	12	14	16	20	22
24	25	28	30	32	36	38	40	45	50

Metric Flats

8 x 7 up to and inc. 10 x 8	Width +0/-0.036mm	Thickness +0/-0.090mm
Over 10 x 8 up to and inc. 16 x 10	Width +0/-0.043mm	Thickness +0/-0.090mm
18 x 11	Width +0/-0.043mm	Thickness +0/-0.110mm
Over 18 x 11 up to and inc. 28 x 16	Width +0/-0.052mm	Thickness +0/-0.110mm
32 x 18	Width +0/-0.062mm	Thickness +0/-0.110mm
Over 32 x 18 up to and inc. 50 x 28	Width +0/-0.062mm	Thickness +0/-0.130mm

Flats (mm)_Bright Drawn

6	10								
7	8								
8	10	12							
9			14						
10	8	12	16						
11				18					
12	8			20					
14					22	25			
16	10					28			
18							32		
20		12			25		36		
22			14					40	
25								40	45
28									50
32									56

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