

MILD STEEL: (LOW CARBON)_Case Harden

DSM 1.1.4

Definition:

Low carbon ($\leq 0,3\%$):

Free cutting steels are used where machining is the most important consideration; but weight, high strength or the ability to withstand shock loading is not a requirement. Low stress applications.

Bright Drawn/Cold Rolled: This is the supplied condition & is essentially black steel that has had further processing, including cold rolling & annealing, to produce a consistent, closer tolerance form with improved strength and a superior finish.

Features:

A general purpose **case hardening** (provides a hard wearing surface), low tensile steel suited for lightly stressed applications that are subject to wear. Good for machining and suitable for welding in its supply condition.

Case Hardening:

0,04" / 1,0 mm is the ASM/DEC recommended case depth giving a surface hardness of 63-64 RC. If the Engineering Drawing specifies a grinding operation, this hardness will reduce to 50-55 RC.

ASM (DEK) Applications:

Cams; Rollers; Bushes; Spindles; Gears.

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/m ³
YOUNGS MODULUS:	210 GPa
POISSONS RATIO:	300
YIELD STRENGTH	370 MPa
Max. TENSILE STRENGTH	430 - 490 MPa (Case Hardened)

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



MILD STEEL: (LOW CARBON)_Case Harden
DSM 1.1.4

CHEMICAL ANALYSIS		BENEFIT
Carbon	0.13/0.18	Good for machining & welding.
Silicon	0,10/0.40	Good for galvanising purposes
Mang	0.70/0.90	Combines with sulphur: good machining & finish.
Phos	0.05 max	Increases resistance to corrosion.
Sulphur	0.07 max	Good for machining.

CURRENT INTERNATIONAL SPECIFICATION COMPARISON	
BRITISH: BS	BS 970:1991: 080A15
GERMAN: DIN	CK15
AMERICAN: SAE	1016
EUROPEAN STEEL No.	1.0407
JAPANESE GRADE	JIS G S15
CHINA GRADE	GB 15

REPLACES

BS970 1955	BS 970 1991	COLOUR CODE	DESCRIPTION
EN32B			Bright: low 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

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

MILD STEEL: (LOW CARBON)_Case Harden
DSM 1.1.4

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

Rounds (mm)_Bright_ Drawn/Turned

3	4	5	6	8	10	12	15	16	17
18	19	20	22	24	25	26	30	32	35
36	40	45	50	54	55	60	65	70	75
80	85	90	95	100	110	180	240	320	330
110	180	240	320	330	350	360	380	390	

Flats (mm)_ Bright_ Drawn

6	3											
10	3	5	6									
12	3	5	6	8	10							
15	3	5	6									
16	3	5	6	8	10	12						
20	3	5	6	8	10	12	16					
25	3	5	6	8	10	12	16	20				
30	3	5	6	8	10	12	16	20	25			
32					10	12	16	20	25			
35					10	12	16	20	25	30		
40	3	5	6	8	10	12	16	20	25	30		
45			6	8	10	12	16	20	25	30	40	
50	3	5	6	8	10	12	16	20	25	30	40	
60			6	8	10	12	16	20	25	30	40	
70			6	8	10	12	16	20	25	30	40	50
75			6	8	10	12	16	20	25			
80		5	6	8	10	12	16	20	25	30	40	50
90			6		10	12	16	20	25	30	40	50
100			6	8	10	12	16	20	25	30	40	50
125			6		10	12	16	20	25	30	40	50
150					10	12	16	20	25			

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