

PLAIN MILD STEEL BARS

SPECIFICATION: ASTM A36 - 01

Bar no.	Bar diameter	Nominal mass per unit length		Nominal cross-sectional area		No of bars per bundle for stated lengths	
		lb/ft	(kg/m)	in ²	(mm ²)	6 m	9 m
#3	3/8"	0.376	(0.560)	0.11	(71)	298	199
#4	1/2"	0.668	(0.994)	0.20	(126)	168	112
#5	5/8"	1.043	(1.552)	0.31	(198)	107	72
#6	3/4"	1.502	(2.235)	0.44	(285)	75	50

- NOTES: 1. Bar numbers are based on the number of eighths of an inch included in the nominal diameter of the bar.
 2. 9 m bars are made by request only.
 3. Mill Test Certificates are provided upon request.
 4. 7/8" and 1" bars are produced to this specification upon request.

MECHANICAL PROPERTIES

TENSILE TEST

Grade	Minimum yield strength		Tensile strength	
	lbs/in ²	N/mm ²	lbs/in ²	N/mm ²
A36	36,000	250	58,000 – 80,000	400 - 550

MINIMUM % ELONGATION

Bar No.	A36
#3	20
#4	20
#5	20
#6	20

TOLERANCES ON PRODUCTS

Nominal diameter	For 3/8" : ± 0.18mm	> 3/8" : 0.20mm
Out of round	For 3/8" : 0.20mm	> 3/8" : 0.30mm
Total length	± 1" (± 25mm)	



PLAIN MILD STEEL BARS

PMS (Plain Mild Steel) bars are commonly used in diverse applications ranging from fabrication and furniture manufacturing to safety enclosures. At Caribbean Steel Mills, PMS bars are manufactured by a hot rolling process, which is continuously monitored to ensure consistency of product quality. The process ensures that no straightening or other mechanical process is required prior to use.

PMS bars are also commonly used in the erection of fences and in other applications where high tensile strength is not necessary.

The carbon content, while adequate to guarantee its strength, is optimum for weldability. All bars are manufactured according to ASTM and BS standards for smooth bars.

SPECIFICATION: ASTM 615/A615M - 01b

Bar no.	Bar diameter	Nominal mass per unit length		Nominal cross-sectional area		No of bars per bundle for stated lengths		
		lb/ft	(kg/m)	in ²	(mm ²)	6 m	9 m	12 m
#3	3/8"	0.376	(0.560)	0.11	(71)	298	199	149
#4	1/2"	0.668	(0.994)	0.20	(126)	168	112	84
#5	5/8"	1.043	(1.552)	0.31	(198)	107	72	54
#6	3/4"	1.502	(2.235)	0.44	(285)	75	50	37

- NOTES: 1. Bar numbers are based on the number of eighths of an inch included in the nominal diameter of the bar.
 2. 9 m bars are made by request only.
 3. Mill Test Certificates are provided upon request.
 7/8" and 1" bars are produced to this specification upon request



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PLAIN MILD STEEL BARS

MECHANICAL PROPERTIES

TENSILE TEST

Grade	Minimum yield strength		Minimum tensile strength	
	lbs/in ²	N/mm ²	lb/in ²	N/mm ²
40	40,000	276	60,000	414

MINIMUM % ELONGATION

Bar No.	Grade 40
#3	11
#4	12
#5	12
#6	12

BEND TEST

Bar no.	Pin diameter for bend test A
3,4,5	3 1/2 d B
6	5d

A Test bend 180° unless noted otherwise B d = nominal diameter of specimen

TOLERANCES ON PRODUCTS

Minimum mass per unit length	94% of nominal value
Total length	± 1" (± 25mm)

PLAIN MILD STEEL BARS

SPECIFICATION: BS 4449 :1997

Nominal diameter	Nominal mass per unit length	Nominal cross-sectional area	No of bars per bundle for stated lengths		
			6 m	9 m	12 m
	kg/m	mm ²			
10	0.616	78.5	271	180	135
12	0.888	113.1	188	125	94
16	1.579	201.1	106	70	53
20	2.466	314.2	68	45	34
25	3.854	490.9	43	29	22

- NOTES: 1. 9m bars are made by request only
 2. Mill Test Certificates are provided upon request

MECHANICAL PROPERTIES

TENSILE TESTS

Grade	Minimum yield strength	Minimum stress ratio (Tensile strength / Yield strength)	Minimum elongation
250	N/mm ² 250	- 1.15	% 22

REBEND TESTS C

Nominal diameter (mm)	Diameter of former
10,12,16	2d D
20,25	2d

C Test Bends are carried out in accordance with the specifications.
 D d = nominal diameter of specimen.

TOLERANCES ON PRODUCTS

Mass per unit length	± 6.5% for bars of nominal diameter 10mm ± 4.5% for bars of nominal diameter > 12mm
Total length	± 25 mm
Nominal diameter	± 8%