

# PRODUCT DATA SHEET

## Manufacturer

FILIPINO METALS CORPORATION

## Location

Business office: Rm. 1104 Tytana Plaza Condominium, Plaza Lorenzo Ruiz, Binondo, Manila

## Grade and Diameter

Grade	Nominal Diameter, mm							
275	10	12	16	20	25	28	32	36
415	10	12	16	20	25	28	32	36

## Commercial Lengths for deformed bars

Standard Lengths, m	6	7.5	9	10.5	12
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- Notes:
- The tolerance on the length per 6m is  $\pm 40$  mm
  - For every additional 1m or fraction thereof, add 5mm to above but not exceeding  $\pm 60$ mm

## Nominal Unit Mass

Nominal Unit Mass, kg/m	Nominal Diameter, mm							
	10	12	16	20	25	28	32	36
	0.616	0.888	1.578	2.466	3.853	4.834	6.313	7.990

- Notes:
- The tolerance on the mass of one piece of steel bar shall be  $\pm 6\%$
  - The tolerance on the mass of one lot of steel bars shall be  $\pm 4\%$

## Mechanical Properties

Grade	Yield strength, MPa, min.	Tensile strength, MPa, min.
275W	275	480
415W	415*	550**

- Notes:
- \* Maximum yield strength of weldable steel bar is 540 Mpa, however a value of 560 Mpa shall be allowed for retest.
  - \*\* Actual tensile strength shall not be less than 1.25 times the actual yield strength.

## Elongation Requirements

Grade	Specimen diameter	Regular Steel Bar	Weldable Steel Bar	Bending angle, degree
		Elongation in 200 mm, %, min.	Elongation in 200 mm, %, min.	
230	< 25 mm	18	20	180
	$\geq 25$ mm	16	18	
275	< 25 mm	10	16	180
	$\geq 25$ mm	8	14	
415	< 25 mm	8	14	180
	$\geq 25$ mm	7	12	

## Deformation Requirements

Nominal Dimensions	Nominal Diameter, mm							
	10	12	16	20	25	28	32	36
Nominal Cross-Sectional area, mm <sup>2</sup>	78.54	113.10	201.06	314.16	490.88	615.75	804.25	1017.88
Max. ave. spacing of lugs, mm	7.0	8.4	11.2	14.0	17.5	19.6	22.4	25.2
Min. Lug Height, mm	0.4	0.5	0.7	1.0	1.2	1.4	1.6	1.8
Max. Lug Height, mm	0.8	1.0	1.4	2.0	2.4	2.8	3.2	3.6
Max. summation of gaps, mm	7.8	9.4	12.6	15.7	19.6	22.0	25.1	28.3

## Chemical Requirements

Grade	Chemical composition for Product Analysis, %, maximum					
	C	Mn	P	S	Si	
275W	0.33	1.26	0.058	0.058	-	
415W	0.33	1.56	0.058	0.058	0.55	

## Bar Markings

				Grade	Color codes to be painted on the surface of the ends of each bar
				230	white
				275	yellow
				415	green
FM	for FILIPINO METALS (Manufacturer's mark)	36	for BAR SIZE (Nominal diameter, mm)	Weldable Grade	red (additional color code)
4	for GRADE ("3"= Grade 275, "4"= Grade 415)	T	for DISTINGUISHING MARK ("T"= Quenched and Tempered, "A"=Micro Alloyed)		