



MATERIAL TESTING LABORATORY

MILITARY ENGINEER SERVICES (MES)

TEST RESULTS FOR TENSILE STRENGTH OF PLAIN/DEFORMED/RIBBED COLD TWISTED M.S. BARS

Job No : 147/2021-2022(Steel).
 Name of Client : GE (Army) North, Dhaka
 Ref Itr No : 6004/General/73/E-6 Dt. 28 Nov'2021.
 Project Name : 1 x SMBK.
 Date of Collection : Monday, 29 November, 2021

Copy No. : 04
 Sample Specimen : Length 600 mm Dia 20mm
 Sample Grade : 60
 Frog Mark : Purbachal B-420 DWR.

| Sample No | Nominal Dia | Actual Dia | Area Under Test | Actual Weight | Average Actual Unit Weight | Yield or Proof Load | Yield or Proof Strength | Average Yield or Proof Strength | Ultimate Load | Ultimate Strength | Average Ultimate Strength | Elongation % (gauge length) | | Average Elongation % (gauge length) | |
|-----------|-------------|-----------------|--------------------|----------------|----------------------------|---------------------|-------------------------|---------------------------------|--------------------|-------------------|---------------------------|-----------------------------|------|-------------------------------------|------|
| | inch mm | inch mm | sq.inch sq.mm | lb/ft kg/m | lb/ft kg/m | lb kn | psi Mpa | psi Mpa | lb kn | psi Mpa | psi Mpa | 8inch | 5d** | 8inch | 5d** |
| 1 | 0.787 20 | 0.787 19.999 | 0.4869 314.1593 | 1.657 2.466 | 1.657 2.466 | 35043.38 155.88 | 71966 496 | 70190 484 | 50879 226.32 | 104486 720 | 103864 716 | 18 | | 20 | |
| 2 | 0.787 20 | 0.787 19.999 | 0.4869 314.1593 | 1.657 2.466 | | 33658.55 149.72 | 69122 477 | | 50310.23 223.79 | 103318 712 | | 21 | | | |
| 3 | 0.787 20 | 0.787 19.999 | 0.4869 314.1593 | 1.657 2.466 | | 33833.91 150.5 | 69482 479 | | 50539.54 224.81 | 103789 716 | | 20.5 | | | |

Cautions:

1. Samples as supplied to the laboratory have been tested. The laboratory authority does not bear any responsibility as to the representative character of the samples to be tested.
2. It is recommended that the samples are sent in a secure and sealed cover/packet/container under signature of the competent authority.
3. In order to avoid fraudulent fabrication of the test results, it is recommended that all test reports should be collected by duly authorized person and not by the contractor/supplier.

Observation on Specimen(if any):

1. Diameter & Unit weight of 20 mm bar is less than the standard value but within tolerance limit according to MES Schedule of Rates-2016.

| Minimum Standard Requirements (BDS/ISO 6935-2:1991(E)) | | | | Minimum Standard Requirements (ASTM A615/A616M-96a) | | | | | | | | | |
|--|-----------------|-----------------|------------|---|-------------------------------|----------------------------|--------------|-------------------------------|----------------------------|---|----------------|-------------|----------------|
| Grade | Y/strength | Ult.Str | Elongation | ASTM A 615 M | | | ASTM A 615 M | | | ASTM A 615/A 615 M | | | |
| | N/mm2 or Mpa | N/mm2 or Mpa | % | Grade | Y/strength psi (kg/cm2) | Ult.Str psi (kg/cm2) | Grade | Y/strength Mpa (kg/cm2) | Ult.Str Mpa (kg/cm2) | Minimum Elongation in 8"(203.2 mm) GL (%) | | | |
| | | | | | | | | | | 10 mm | 13,16,19 mm | 22,25 mm | 29,32,36 mm |
| 300 | 300 | 330 | 16 | 40 | 40000(2810) | 70000(4910) | 300 | 300(3050) | 500(5090) | 11 | 12 | .. | .. |
| 400/400w | 400 | 440 | 14 | 60 | 60000(4210) | 90000(6310) | 420 | 420(4275) | 620(6295) | 9 | 9 | 8 | 7 |
| 500/500w | 500 | 550 | 14 | 75 | 75000(5255) | 100000(7015) | 520 | 520(5275) | 690(7010) | .. | 7 | 7 | 6 |

This is a computer generated copy
No signature is required

Note : [1 Mpa = 145 Psi, 1 kg/cm2 = 14.223 psi] Laboratory Technician

Test Performed By

Vetted By