# MATERIAL TESTING LABORATORY
## MILITARY ENGINEER SERVICES (MES)
### TEST RESULTS FOR TENSILE STRENGTH OF PLAIN/DEFORMED/RIBBED COLD TWISTED M.S. BARS

| | | | |
|---|---|---|---|
| Job No | : 69/2021-2022(Steel). | Copy No. | : 03 |
| Name of Client | : AGE (Army) Jahanabad. | Sample Specimen | : Length 600 mm Dia 16mm |
| Ref Itr No | : 6000/Test/09/E-6 Dt.21 Sep'2021. | Sample Grade | : 60 |
| Project Name | : EinC/266 of 2020-2021. | Frog Mark | : GPH B-500 CWR |
| Date of Collection | : Sunday, 26 September, 2021 | | |

| Sample No | Nominal Dia | Actual Dia | Area Under Test | Actual Unit 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<br>mm | inch<br>mm | sq.inch<br>sq.mm | lb/ft<br>kg/m | lb/ft<br>kg/m | lb<br>kn | psi<br>Mpa | psi<br>Mpa | lb<br>kn | psi<br>Mpa | psi<br>Mpa | 8inch | 5d** | 8inch | 5d** |
| 1 | 0.63<br>16 | 0.624<br>15.847 | 0.3116<br>201.0619 | 1.041<br>1.548 | | 25898.11<br>115.2 | 83101<br>573 | | 31028.28<br>138.02 | 99563<br>686 | | 16.5 | | | |
| 2 | 0.63<br>16 | 0.624<br>15.847 | 0.3116<br>201.0619 | 1.041<br>1.548 | 1.041<br>1.548 | 26475.87<br>117.77 | 84955<br>586 | 83618<br>576 | 31648.75<br>140.78 | 101554<br>700 | 100063<br>690 | 16.5 | | 18 | |
| 3 | 0.63<br>16 | 0.624<br>15.847 | 0.3116<br>201.0619 | 1.041<br>1.548 | | 25803.69<br>114.78 | 82798<br>571 | | 30875.41<br>137.34 | 99072<br>683 | | 19.5 | | | |

## Cautions:

1. Samples as supplied to the laboratory have been tested.The laboratory authority does not bear any responsibility as to the representative charecter 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 16 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 Requirments(ASTM A615/A616M-96a) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ASTM A 615 M | | | ASTM A 615 M | | | ASTM A 615/A 615 M | | | |
| Grade | Y/strength | Ult.Str | Elongation | Grade | Y/strength | Ult.Str | Grade | Y/strength | Ult.Str | Minimum Elongation in 8"(203.2 mm) GL (%) | | | |
| | N/mm2 or Mpa | N/mm2 or Mpa | % | | psi (kg/cm2) | psi (kg/cm2) | | Mpa (kg/cm2) | Mpa (kg/cm2) | 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 genarated copy
No signature is required

Note :[1 Mpa = 145 Psi, 1 kg/cm2 = 14.223 psi] Laboratory Technichian Test Performed By Vetted By