

# MATERIAL TESTING LABORATORY

### **MILITARY ENGINEER SERVICES (MES)**

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

Job No : 32/2021-2022 (Steel). Copy No. : 01

Name of Client : GE (Army) South, Dhaka. Sample Specimen : Length 600 mm Dia 10mm

Ref Itr No : 6000/Misc/24/E-6 Dt. 17 Aug'2021. Sample Grade : 60

Project Name : CEA/513 of 2020-2021. Frog Mark : RSM B-420 DWR

Date of Collection : Wednesday, 25 August, 2021

| Sample<br>No | Nominal<br>Dia | Actual Dia      | Area Under<br>Test | Actual Unit<br>Weight | Average<br>Actual Unit<br>Weight | Yield or<br>Proof Load | Yield or<br>Proof<br>Strength | Average<br>Yield or<br>Proof<br>Strength | Ultimate<br>Load  | Ultimate<br>Strength | Average<br>Ultimate<br>Strength | % (g  | gation<br>gauge<br>gth) | Elong | erage<br>gation<br>gauge<br>gth) |
|--------------|----------------|-----------------|--------------------|-----------------------|----------------------------------|------------------------|-------------------------------|------------------------------------------|-------------------|----------------------|---------------------------------|-------|-------------------------|-------|----------------------------------|
|              | 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            | 0.394<br>10    | 0.398<br>10.121 | 0.1217<br>78.5398  | 0.424<br>0.632        |                                  | 9531.94<br>42.4        | 78300<br>540                  |                                          | 12333.08<br>54.86 | 101309<br>698        |                                 | 16.5  |                         |       |                                  |
| 2            | 0.394<br>10    | 0.398<br>10.121 | 0.1217<br>78.5398  | 0.424<br>0.632        | 0.424<br>0.632                   | 8763.09<br>38.98       | 71984<br>496                  | 76773<br>529                             | 12589.36<br>56    | 103415<br>713        | 101365<br>699                   | 14.5  |                         | 15    |                                  |
| 3            | 0.394<br>10    | 0.398<br>10.121 | 0.1217<br>78.5398  | 0.424<br>0.632        |                                  | 9743.27<br>43.34       | 80036<br>552                  |                                          | 12097.03<br>53.81 | 99370<br>685         |                                 | 13.5  |                         |       |                                  |

### **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.

| 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                                             | Grade Y/strength Ult.Str Grade Y/strength Ult |              |              | Ult.Str   | Minimum Elongation in 8"(203.2 mm) GL (%) |                    |             |       |          |
|                                                       | N/mm2 or   | Contraction of the Contraction o | 70275      |                                                   | psi                                           | psi          |              | Мра       | Mpa                                       | 10                 | 13,16,19 mm | 22,25 | 29,32,36 |
|                                                       | Mpa        | Mpa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | %          |                                                   | (kg/cm2)                                      | (kg/cm2)     |              | (kg/cm2)  | (kg/cm2)                                  | mm                 |             | mm    | 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