



# MATERIAL TESTING LABORATORY

## MILITARY ENGINEER SERVICES (MES)

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

Job No : 264/2018-2019 (Steel).  
 Name of Client : GE(Army) Comilla.  
 Ref Itr No : CEA/ 197 of 2017-2018/18/E-4 Dt. 02 April 2019.  
 Project Name : CEA/ 197 of 2017-2018.  
 Date of Collection : Wednesday, 03 April, 2019

Copy No. : 04  
 Sample Specimen : Length 600 mm Dia 20mm  
 Sample Grade : 60  
 Frog Mark : BSRM 420

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	0.784 19.908	0.4869 314.1593	1.642 2.444	1.642 2.444	33301.11 148.13	68388 471	68346 471	48653.38 216.42	99915 689	99710 687	28.5		29	
2	0.787 20	0.784 19.908	0.4869 314.1593	1.642 2.444		33449.48 148.79	68692 474		48567.95 216.04	99740 688		30.5			
3	0.787 20	0.784 19.908	0.4869 314.1593	1.642 2.444		33092.03 147.2	67958 469		48439.81 215.47	99477 686		26.5			

#### 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 (%)			
300	300	330	16	40	40000(2810)	70000(4910)	300	300(3050)	500(5090)	10	13,16,19 mm	22,25 mm	29,32,36 mm
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

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No signature is required

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

Laboratory Technician

Test Performed By

Vetted By