



MATERIALS TESTING LABORATORY MILITARY ENGINEER SERVICES(MES)

Page no: 429

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

Job No : 72/2025-2026 (Steel).

Copy No : 01

Name of Client : GE (Army) Cumilla.

Sample Specimen : Length 600mm , Dia 10mm

Ref.ltr.No : CEA/256 of 2022-2023/58/E-6 Dt.30 Sep'2025.

Sample Grade : 60

Project Name : Construction of 1x 56 family Qtr.

Frog Mark : GPH B-420 DWR.

Dt. of Sample Collection : 05 Oct'2025

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 load	Ultimate load	Ultimate Strength	Average Ultimate Strength	Ratio	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	(Fult/Fy)	8inch	5d	8inch	5d
1	0.394 10.00	0.395 10.04	0.1217 78.5398	0.417 0.621	0.417 0.621	12939.73 57.56	106293 733	106989 738	16687.26 74.23	137076 945	136424 941	1.29	18		18	
2	0.394 10.00	0.395 10.04	0.1217 78.5398	0.417 0.621		13087.78 58.22	107509 741		16590.11 73.80	136278 940		1.27	18			
3	0.394 10.00	0.395 10.04	0.1217 78.5398	0.417 0.621		13046.14 58.03	107167 739		16546.15 73.60	135917 937		1.27	19			

Cautions:

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

Ovservation on Specimen(if any):

Minimum Standard Requirements (BDS/ISO 6935-2:1991(E))				Minimum Standard Requirments(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	Ult.Str	Grade	Y/strength	Ult.Str	Minimum Elongation in 8"(203.2 mm) GL (%)			
					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

Laboratory Technician

Test Performed By

Vetted By



MATERIALS TESTING LABORATORY MILITARY ENGINEER SERVICES(MES)

Page no: 430

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

Job No : 72/2025-2026 (Steel).

Copy No : 02

Name of Client : GE (Army) Cumilla.

Sample Specimen : Length 600mm , Dia 12mm

Ref.ltr.No : CEA/256 of 2022-2023/58/E-6 Dt.30 Sep'2025.

Sample Grade : 60

Project Name : Construction of 1x 56 family Qtr.

Frog Mark : GPH B-420 DWR.

Dt. of Sample Collection: 05 Oct'2025

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 load	Ultimate load	Ultimate Strength	Average Ultimate Strength	Ratio	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	(Fult/Fy)	8inch	5d	8inch	5d
1	0.472 12.00	0.474 12.05	0.175 113.097	0.602 0.895	0.602 0.895	16189.91 72.02	92355 637	92623 639	21172.74 94.18	120779 833	121791 840	1.31	25.5		23	
2	0.472 12.00	0.474 12.05	0.175 113.097	0.602 0.895		16229.23 72.19	92579 638		21640.03 96.26	123445 851		1.33	21.5			
3	0.472 12.00	0.474 12.05	0.175 113.097	0.602 0.895		16291.69 72.47	92935 641		21237.52 94.47	121149 836		1.30	21.5			

Cautions:

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

Ovservation on Specimen(if any):

Minimum Standard Requirements (BDS/ISO 6935-2:1991(E))				Minimum Standard Requirments(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 mm	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

Laboratory Technician

Test Performed By

Vetted By



MATERIALS TESTING LABORATORY MILITARY ENGINEER SERVICES(MES)

Page no: 431

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

Job No : 72/2025-2026 (Steel).

Copy No : 03

Name of Client : GE (Army) Cumilla.

Sample Specimen : Length 600mm , Dia 16mm

Ref.ltr.No : CEA/256 of 2022-2023/58/E-6 Dt.30 Sep'2025.

Sample Grade : 60

Project Name : Construction of 1x 56 family Qtr.

Frog Mark : GPH B-420 DWR.

Dt. of Sample Collection: 05 Oct'2025

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 load	Ultimate load	Ultimate Strength	Average Ultimate Strength	Ratio (Fult/Fy)	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	0.630 16.00	0.630 16.01	0.312 201.062	1.062 1.580	1.062 1.580	25947.38 115.42	83259 574	83680 577	35436.52 157.63	113707 784	114655 791	1.37	23.5		23	
2	0.630 16.00	0.630 16.01	0.312 201.062	1.062 1.580		25942.76 115.40	83244 574		35607.70 158.39	114257 788		1.37	22.5			
3	0.630 16.00	0.630 16.01	0.312 201.062	1.062 1.580		26345.27 117.19	84536 583		36151.33 160.81	116001 800		1.37	22.5			

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 samples are sent in a secured and sealed cover/packet/container under signature of the competent authority.
3. In order to avoid fraudulent of the test results, it is recommended that all test reports should be collected by duly authorised person and not by contractor/supplier.

Observation on Specimen(if any):

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

Laboratory Technician

Test Performed By

Vetted By



MATERIALS TESTING LABORATORY MILITARY ENGINEER SERVICES(MES)

Page no: 432

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

Job No : 72/2025-2026 (Steel).

Copy No : 04

Name of Client : GE (Army) Cumilla.

Sample Specimen : Length 600mm , Dia 20mm

Ref.ltr.No : CEA/256 of 2022-2023/58/E-6 Dt.30 Sep'2025.

Sample Grade : 60

Project Name : Construction of 1x 56 family Qtr.

Frog Mark : GPH B-420 DWR.

Dt. of Sample Collection: 05 Oct'2025

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 load	Ultimate load	Ultimate Strength	Average Ultimate Strength	Ratio	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	(Fult/Fy)	8inch	5d	8inch	5d
1	0.787 20.00	0.787 20.00	0.4869 314.1593	1.658 2.466	1.658 2.466	39667.54 176.45	81462 562	81694 563	52395.28 233.06	107599 742	108226 746	1.32	26.5		26	
2	0.787 20.00	0.787 20.00	0.4869 314.1593	1.658 2.466		39531.05 175.84	81181 560		52781.60 234.78	108393 748		1.34	27.5			
3	0.787 20.00	0.787 20.00	0.4869 314.1593	1.658 2.466		40144.07 178.57	82440 569		52925.03 235.42	108687 750		1.32	25			

Cautions:

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

Ovservation on Specimen(if any):

Minimum Standard Requirements (BDS/ISO 6935-2:1991(E))				Minimum Standard Requirments(ASTM A615/A616M-96a)									
Grade				ASTM A 615 M		ASTM A 615 M		ASTM A 615/A 615 M					
				Y/strength	Ult.Str	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	40000(2810)	70000(4910)	300(3050)	500(5090)	11	12	..	..	..	..
400/400w	400	440	14	60000(4210)	90000(6310)	420(4275)	620(6295)	9	9	8	7	8	7
500/500w	500	550	14	75000(5255)	100000(7015)	520(5275)	690(7010)	..	7	7	6	7	6

Laboratory Technician

Test Performed By

Vetted By



MATERIALS TESTING LABORATORY MILITARY ENGINEER SERVICES(MES)

Page no: 433

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

Job No : 72/2025-2026 (Steel).

Copy No : 05

Name of Client : GE (Army) Cumilla.

Sample Specimen : Length 600mm , Dia 25mm

Ref.ltr.No : CEA/256 of 2022-2023/58/E-6 Dt.30 Sep'2025.

Sample Grade : 60

Project Name : Construction of 1x 56 family Qtr.

Frog Mark : GPH B-420 DWR.

Dt. of Sample Collection: 05 Oct'2025

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 load	Ultimate load	Ultimate Strength	Average Ultimate Strength	Ratio	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	(Fult/Fy)	8inch	5d	8inch	5d
1	0.984 25.00	0.984 25.00	0.7609 490.8739	2.590 3.854	2.590 3.854	60130.94 267.47	79031 545	78141 539	79837.90 355.14	104932 724	104904 723	1.33	31.5		31	
2	0.984 25.00	0.984 25.00	0.7609 490.8739	2.590 3.854		57972.64 257.87	76194 525		79333.60 352.89	104269 719		1.37	32			
3	0.984 25.00	0.984 25.00	0.7609 490.8739	2.590 3.854		60258.17 268.04	79198 546		80279.74 357.10	105512 728		1.33	30.5			

Cautions:

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

Ovservation on Specimen(if any):

Minimum Standard Requirements (BDS/ISO 6935-2:1991(E))				Minimum Standard Requirments(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 mm	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

Laboratory Technician

Test Performed By

Vetted By