MATERRIALS TESTING LABORATORY
MILITARY ENGINEER SERVICES(MES)

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

Job No : 74/2025-2026 (Steel).
Name of Client : GE (Army) Cumilla.
Ref.ltr.No : CEA/422 of 2024-2025/10/E-6 Dt.08 Oct'2025.
Project Name : Construction of 1 x SMBK.
Dt. of Sample Collection : 13 Oct'2025

Copy No : 01
Sample Specimen : Length 600mm , Dia 10mm
Sample Grade : 60
Frog Mark : Baizid B-420 DWR.

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	0.400 10.17	0.1217 78.5398	0.428 0.637	0.428 0.637	12682.95 56.42	104183 719	105235 726	15273.84 67.94	125466 865	126258 871	1.20	16		16	
2	0.394 10.00	0.400 10.17	0.1217 78.5398	0.428 0.637		13066.96 58.12	107338 740		15563.00 69.23	127841 882		1.19	14.5			
3	0.394 10.00	0.400 10.17	0.1217 78.5398	0.428 0.637		12682.95 56.42	104183 719		15273.84 67.94	125466 865		1.20	16			

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/supplyer.

Ovservation on Specimen(if any):

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

Laboratory Technician Test Performed By Vetted By

MATERRIALS TESTING LABORATORY
MILITARY ENGINEER SERVICES(MES)

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

Job No : 74/2025-2026 (Steel).
Name of Client : GE (Army) Cumilla.
Ref.ltr.No : CEA/422 of 2024-2025/10/E-6 Dt.08 Oct'2025.
Project Name : Construction of 1 x SMBK.
Dt. of Sample Collection: 13 Oct'2025

Copy No : 02
Sample Specimen : Length 600mm , Dia 12mm
Sample Grade : 60
Frog Mark : Baizid B-420 DWR.

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	0.482 12.24	0.175 113.097	0.621 0.924		17797.65 79.17	101526 700		22849.88 101.64	130346 899		1.28	17.5			
2	0.472 12.00	0.482 12.24	0.175 113.097	0.621 0.924	0.621 0.924	17820.78 79.27	101658 701	101570 700	22553.78 100.32	128657 887	129541 893	1.27	15.5		16	
3	0.472 12.00	0.482 12.24	0.175 113.097	0.621 0.924		17797.65 79.17	101526 700		22722.65 101.07	129621 894		1.28	15.5			

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/supplyer.

Ovservation on Specimen(if any):

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

Laboratory Technician Test Performed By Vetted By

MATERRIALS TESTING LABORATORY
MILITARY ENGINEER SERVICES(MES)

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

Job No : 74/2025-2026 (Steel).
Name of Client : GE (Army) Cumilla.
Ref.ltr.No : CEA/422 of 2024-2025/10/E-6 Dt.08 Oct'2025.
Project Name : Construction of 1 x SMBK.
Dt. of Sample Collection: 13 Oct'2025

Copy No : 03
Sample Specimen : Length 600mm , Dia 16mm
Sample Grade : 60
Frog Mark : GPH B-420 DWR.

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	0.630 16.00	0.634 16.10	0.312 201.062	1.074 1.598		25847.91 114.98	82940 572		34057.80 151.50	109283 754		1.32	19			
2	0.630 16.00	0.634 16.10	0.312 201.062	1.074 1.598	1.074 1.598	25933.50 115.36	83214 574	82833 571	33844.97 150.55	108600 749	107744 743	1.31	18		19	
3	0.630 16.00	0.634 16.10	0.312 201.062	1.074 1.598		25662.85 114.15	82346 568		32831.75 146.04	105349 727		1.28	20			

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/supplyer.

Ovservation on Specimen(if any):

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

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MATERRIALS TESTING LABORATORY
MILITARY ENGINEER SERVICES(MES)

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

Job No : 74/2025-2026 (Steel).
Name of Client : GE (Army) Cumilla.
Ref.ltr.No : CEA/422 of 2024-2025/10/E-6 Dt.08 Oct'2025.
Project Name : Construction of 1 x SMBK.
Dt. of Sample Collection: 13 Oct'2025

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

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	0.789 20.05	0.4869 314.1593	1.666 2.478		36065.74 160.43	74065 511		46901.21 208.63	96317 664		1.30	23			
2	0.787 20.00	0.789 20.05	0.4869 314.1593	1.666 2.478	1.666 2.478	37132.16 165.17	76255 526	74668 515	47620.64 211.83	97794 674	96909 668	1.28	21.5		22	
3	0.787 20.00	0.789 20.05	0.4869 314.1593	1.666 2.478		35880.67 159.60	73685 508		47046.95 209.27	96616 666		1.31	20			

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/supplyer.

Ovservation on Specimen(if any):

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

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MATERRIALS TESTING LABORATORY
MILITARY ENGINEER SERVICES(MES)

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

Job No : 74/2025-2026 (Steel).
Name of Client : GE (Army) Cumilla.
Ref.ltr.No : CEA/422 of 2024-2025/10/E-6 Dt.08 Oct'2025.
Project Name : Construction of 1 x SMBK.
Dt. of Sample Collection: 13 Oct'2025

Copy No : 05
Sample Specimen : Length 600mm , Dia 25mm
Sample Grade : 60
Frog Mark : GPH B-420 DWR.

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	1.003 25.47	0.7609 490.8739	2.687 3.998		58530.14 260.35	76927 531		75317.72 335.03	98991 683		1.29	20.5			
2	0.984 25.00	1.003 25.47	0.7609 490.8739	2.687 3.998	2.687 3.998	57109.78 254.04	75060 518	76372 527	75021.62 333.71	98602 680	99560 687	1.31	22.5		21	
3	0.984 25.00	1.003 25.47	0.7609 490.8739	2.687 3.998		58685.13 261.04	77130 532		76913.90 342.13	101089 697		1.31	19			

Cautions:

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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/supplyer.

Ovservation on Specimen(if any):

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 N/mm2 or Mpa	Ult.Str N/mm2 or Mpa	Elongation %	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