



MATERIALS TESTING LABORATORY MILITARY ENGINEER SERVICES(MES)

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

Job No : 110/2024-2025 (Steel). Copy No : 01
Name of Client : GE (Navy) Khulna. Sample Specimen : Length 600mm , Dia 10mm
Ref.ltr.No : EinC/174 of 2023-2024/38/E-6 Dt.01 Jun'2025. Sample Grade : 72.5
Project Name : Construction of 1 x Main security gate, 2 x Annex security gate and 1 x Annex SIP. Frog Mark : AKS B-500 DWR.
Dt. of Sample Collection : 02 Jun'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	0.390 9.91	0.1217 78.5398	0.407 0.606	0.407 0.606	16182.97 71.99	132934 917	133707 922	18658.19 83.00	153266 1057	154115 1063	1.15	17.5		18	
2	0.394 10.00	0.390 9.91	0.1217 78.5398	0.407 0.606		16270.87 72.38	133656 922		18690.58 83.14	153532 1059		1.15	17.5			
3	0.394 10.00	0.390 9.91	0.1217 78.5398	0.407 0.606		16377.28 72.85	134530 928		18935.79 84.23	155547 1073		1.16	18.5			

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):

1. Diameter & Unit weight of 10 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)									
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

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

Job No : 110/2024-2025 (Steel). Copy No : 02
Name of Client : GE (Navy) Khulna. Sample Specimen : Length 600mm , Dia 12mm
Ref.ltr.No : EinC/174 of 2023-2024/38/E-6 Dt.01 Jun'2025. Sample Grade : 72.5
Project Name : Construction of 1 x Main security gate, 2 x Annex security gate and 1 x Annex SIP. Frog Mark : AKS B-500 DWR.
Dt. of Sample Collection: 02 Jun'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	0.466 11.84	0.175 113.097	0.580 0.864	0.580 0.864	19009.81 84.56	108441 748	107926 744	22801.30 101.42	130069 897	130175 898	1.20	19		19	
2	0.472 12.00	0.466 11.84	0.175 113.097	0.580 0.864		18838.63 83.80	107464 741		22808.24 101.46	130109 897		1.21	19.5			
3	0.472 12.00	0.466 11.84	0.175 113.097	0.580 0.864		18910.34 84.12	107873 744		22849.88 101.64	130346 899		1.21	18.5			

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):

1. Diameter & Unit weight of 12 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)									
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

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

Job No : 110/2024-2025 (Steel).

Copy No : 03

Name of Client : GE (Navy) Khulna.

Sample Specimen : Length 600mm , Dia 16mm

Ref.ltr.No : EinC/174 of 2023-2024/38/E-6 Dt.01 Jun'2025.

Sample Grade : 72.5

Project Name : Construction of 1 x Main security gate, 2 x Annex security gate and 1 x Annex SIP.

Frog Mark : AKS B-500 DWR.

Dt. of Sample Collection: 02 Jun'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	0.630 16.00	0.628 15.94	0.312 201.062	1.053 1.567	1.053 1.567	28205.16 125.46	90504 624	91276 629	35882.99 159.61	115140 794	116971 807	1.27	22.5		23	
2	0.630 16.00	0.628 15.94	0.312 201.062	1.053 1.567		28207.47 125.47	90511 624		36583.91 162.73	117389 810		1.30	24.5			
3	0.630 16.00	0.628 15.94	0.312 201.062	1.053 1.567		28924.59 128.66	92812 640		36893.90 164.11	118384 816		1.28	21			

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):

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

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

Job No : 110/2024-2025 (Steel).	Copy No : 04
Name of Client : GE (Navy) Khulna.	Sample Specimen : Length 600mm , Dia 20mm
Ref.ltr.No : EinC/174 of 2023-2024/38/E-6 Dt.01 Jun'2025.	Sample Grade : 72.5
Project Name : Construction of 1 x Main security gate, 2 x Annex security gate and 1 x Annex SIP.	Frog Mark : AKS B-500 DWR.
Dt. of Sample Collection: 02 Jun'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	0.781 19.85	0.4869 314.1593	1.632 2.429	1.632 2.429	42408.79 188.64	87091 601	93064 642	54516.58 242.50	111956 772	115305 795	1.29	22.5		21	
2	0.787 20.00	0.781 19.85	0.4869 314.1593	1.632 2.429		46690.70 207.69	95884 661		56788.23 252.61	116621 804		1.22	19.5			
3	0.787 20.00	0.781 19.85	0.4869 314.1593	1.632 2.429		46852.63 208.41	96217 664		57137.54 254.16	117338 809		1.22	20.5			

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):

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 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

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