



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 : 85/2024-2025 (Steel).

Copy No : 01

Name of Client : AGE (Army) Bhatiary.

Sample Specimen : Length 600mm , Dia 10mm

Ref.ltr.No : CEA/398 of 2022-2023/13/E-6 Dt.30 Apr'2025.

Sample Grade : 60

Project Name : Construction of 8 x Horse stables.

Frog Mark : BSRM B-500 DWR.

Dt. of Sample Collection : 05 May'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	0.394 10.01	0.1217 78.5398	0.415 0.617	0.415 0.617	15278.47 67.96	125504 866	125618 866	18054.42 80.31	148307 1023	148319 1023	1.18	14.5		15	
2	0.394 10.00	0.394 10.01	0.1217 78.5398	0.415 0.617		15507.48 68.98	127385 879		18116.88 80.59	148820 1026		1.17	15			
3	0.394 10.00	0.394 10.01	0.1217 78.5398	0.415 0.617		15091.09 67.13	123965 855		17996.59 80.05	147832 1020		1.19	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 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 N/mm ² or Mpa	Ult.Str N/mm ² or Mpa	Elongation %	ASTM A 615 M			ASTM A 615 M			ASTM A 615/A 615 M			
				Grade	Y/strength psi (kg/cm ²)	Ult.Str psi (kg/cm ²)	Grade	Y/strength Mpa (kg/cm ²)	Ult.Str Mpa (kg/cm ²)	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

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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 : 85/2024-2025 (Steel).
Name of Client : AGE (Army) Bhatary.
Ref.ltr.No : CEA/398 of 2022-2023/13/E-6 Dt.30 Apr'2025.
Project Name : Construction of 8 x Horse stables.
Dt. of Sample Collection: 05 May'2025

Copy No : 02
Sample Specimen : Length 600mm , Dia 12mm
Sample Grade : 60
Frog Mark : BSRM B-500 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	0.469 11.92	0.175 113.097	0.588 0.876	0.588 0.876	18928.85 84.20	107979 745	109387 754	22734.22 101.13	129687 894	130373 899	1.20	15.5		16	
2	0.472 12.00	0.469 11.92	0.175 113.097	0.588 0.876		19329.05 85.98	110262 760		22914.65 101.93	130716 901		1.19	16.5			
3	0.472 12.00	0.469 11.92	0.175 113.097	0.588 0.876		19268.90 85.71	109919 758		22914.65 101.93	130716 901		1.19	16.5			

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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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 : 85/2024-2025 (Steel).

Copy No : 03

Name of Client : AGE (Army) Bhatia.

Sample Specimen : Length 600mm , Dia 16mm

Ref.ltr.No : CEA/398 of 2022-2023/13/E-6 Dt.30 Apr'2025.

Sample Grade : 60

Project Name : Construction of 8 x Horse stables.

Frog Mark : BSRR B-500 DWR.

Dt. of Sample Collection: 05 May'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	0.624 15.85	0.312 201.062	1.041 1.549	1.041 1.549	29745.81 132.32	95447 658	96764 667	36310.94 161.52	116513 804	117889 813	1.22	16.5		19	
2	0.630 16.00	0.624 15.85	0.312 201.062	1.041 1.549		29711.11 132.16	95336 657		36498.32 162.35	117114 808		1.23	19.5			
3	0.630 16.00	0.624 15.85	0.312 201.062	1.041 1.549		31011.19 137.94	99508 686		37409.76 166.41	120039 828		1.21	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 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):

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 Requirements (ASTM A615/A616M-96a)									
Grade	Y/strength N/mm ² or Mpa	Ult.Str N/mm ² or Mpa	Elongation %	ASTM A 615 M		ASTM A 615 M		ASTM A 615/A 615 M					
				Grade	Y/strength psi (kg/cm ²)	Ult.Str psi (kg/cm ²)	Grade	Y/strength Mpa (kg/cm ²)	Ult.Str Mpa (kg/cm ²)	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 : 85/2024-2025 (Steel).
Name of Client : AGE (Army) Bhatary.
Ref.ltr.No : CEA/398 of 2022-2023/13/E-6 Dt.30 Apr'2025.
Project Name : Construction of 8 x Horse stables.
Dt. of Sample Collection: 05 May'2025

Copy No : 04
Sample Specimen : Length 600mm , Dia 20mm
Sample Grade : 60
Frog Mark : Baizid B-500 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	0.780 19.81	0.4869 314.1593	1.626 2.419	1.626 2.419	44890.96 199.68	92188 636	92043 635	54942.22 244.39	112830 778	113002 779	1.22	21.5		22	
2	0.787 20.00	0.780 19.81	0.4869 314.1593	1.626 2.419		44606.42 198.42	91604 632		55048.63 244.87	113048 780		1.23	21.5			
3	0.787 20.00	0.780 19.81	0.4869 314.1593	1.626 2.419		44962.67 200.00	92336 637		55087.96 245.04	113129 780		1.23	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 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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