



MATERIALS TESTING LABORATORY MILITARY ENGINEER SERVICES(MES)

Page no: 346

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

Job No : 40/2025-2026 (Steel).	Copy No : 01
Name of Client : AGE (Army) Bhatary.	Sample Specimen : Length 600mm , Dia 10mm
Ref.ltr.No : EinC/02/KSA Grant/2019-2020/02/E-6 Dt.13 Aug'2025.	Sample Grade : 72.5
Project Name : Construction of 1 x 50 Bedded Hospital.	Frog Mark : Purbachal B-500 DWR
Dt. of Sample Collection : 14 Aug'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	0.392 9.96	0.1217 78.5398	0.411 0.612	0.411 0.612	13892.80 61.80	114121 787	113824 785	16462.87 73.23	135233 933	135689 936	1.18	11.5		13	
2	0.394 10.00	0.392 9.96	0.1217 78.5398	0.411 0.612		14126.45 62.84	116041 800		16779.80 74.64	137836 951		1.19	15			
3	0.394 10.00	0.392 9.96	0.1217 78.5398	0.411 0.612		13550.44 60.28	111309 768		16312.51 72.56	133998 924		1.20	11.5			

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 : 40/2025-2026 (Steel).

Copy No : 02

Name of Client : AGE (Army) Bhatary.

Sample Specimen : Length 600mm , Dia 12mm

Ref.ltr.No : EinC/02/KSA Grant/2019-2020/02/E-6 Dt.13 Aug'2025.

Sample Grade : 72.5

Project Name : Construction of 1 x 50 Bedded Hospital.

Frog Mark : Purbachal B-500 DWR

Dt. of Sample Collection: 14 Aug'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	0.473 12.01	0.175 113.097	0.598 0.890	0.598 0.890	18491.63 82.25	105485 727	105766 729	20323.76 90.40	115936 800	123850 854	1.10	12.5		13	
2	0.472 12.00	0.473 12.01	0.175 113.097	0.598 0.890		18565.66 82.58	105907 730		22616.24 100.60	129014 890		1.22	13.5			
3	0.472 12.00	0.473 12.01	0.175 113.097	0.598 0.890		18565.66 82.58	105907 730		22192.91 98.72	126599 873		1.20	13.5			

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 psi (kg/cm2)	Ult.Str psi (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 : 40/2025-2026 (Steel).

Copy No : 03

Name of Client : AGE (Army) Bhatia.

Sample Specimen : Length 600mm , Dia 16mm

Ref.ltr.No : EinC/02/KSA Grant/2019-2020/02/E-6 Dt.13 Aug'2025.

Sample Grade : 72.5

Project Name : Construction of 1 x 50 Bedded Hospital.

Frog Mark : Purbachal B-500 DWR

Dt. of Sample Collection: 14 Aug'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	0.632 16.05	0.312 201.062	1.067 1.588	1.067 1.588	30393.54 135.20	97526 673	94064 649	37921.00 168.68	121679 839	115662 798	1.25	17		16	
2	0.630 16.00	0.632 16.05	0.312 201.062	1.067 1.588		28207.47 125.47	90511 624		33356.87 148.38	107034 738		1.18	14.5			
3	0.630 16.00	0.632 16.05	0.312 201.062	1.067 1.588		29343.30 130.52	94156 649		36859.20 163.96	118272 816		1.26	16			

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 (%)			
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 : 40/2025-2026 (Steel).

Copy No : 04

Name of Client : AGE (Army) Bhatary.

Sample Specimen : Length 600mm , Dia 20mm

Ref.ltr.No : EinC/02/KSA Grant/2019-2020/02/E-6 Dt.13 Aug'2025.

Sample Grade : 72.5

Project Name : Construction of 1 x 50 Bedded Hospital.

Frog Mark : Purbachal B-500 DWR

Dt. of Sample Collection: 14 Aug'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	0.792 20.13	0.4869 314.1593	1.678 2.498	1.678 2.498	45557.18 202.65	93557 645	92397 637	57743.62 256.86	118583 818	114952 793	1.27	21.5		20	
2	0.787 20.00	0.792 20.13	0.4869 314.1593	1.678 2.498		44497.70 197.93	91381 630		53223.44 236.75	109300 754		1.20	19.5			
3	0.787 20.00	0.792 20.13	0.4869 314.1593	1.678 2.498		44923.34 199.83	92255 636		56959.42 253.37	116972 807		1.27	20			

Cautions:

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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

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