



MATERIALS TESTING LABORATORY MILITARY ENGINEER SERVICES(MES)

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

Job No : 98/2025-2026 (Steel).	Copy No : 01
Name of Client : AGE (Air) PKP.	Sample Specimen : Length 600mm , Dia 10mm
Ref.ltr.No : EinC/159 of 2024-2025/16/E-6 Dt.30 Dec'2025.	Sample Grade : 60
Project Name : Construction of 1 x Underground Operational Building.	Frog Mark : GPH B-420 DWR.
Dt. of Sample Collection : 08 Jan'2026	

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	0.396 10.05	0.1217 78.5398	0.418 0.623	0.418 0.623	11426.60 50.83	93863 647	94213 650	15055.33 66.97	123671 853	124378 858	1.32	19	20		
2	0.394 10.00	0.396 10.05	0.1217 78.5398	0.418 0.623		11447.53 50.92	94035 649		15120.46 67.26	124206 857		1.32	18.5			
3	0.394 10.00	0.396 10.05	0.1217 78.5398	0.418 0.623		11533.60 51.30	94742 653		15248.39 67.83	125257 864		1.32	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):

Minimum Standard Requirements (BDS/ISO 6935-2:1991(E))				Minimum Standard Requirements(ASTM A615/A616M-96a)									
Grade	Y/strength N/mm2 or Mpa	Ult.Str N/mm2 or Mpa	Elongation %	ASTM A 615 M		ASTM A 615 M		ASTM A 615/A 615 M					
				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

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MATERIALS TESTING LABORATORY MILITARY ENGINEER SERVICES(MES)

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

Job No : 98/2025-2026 (Steel).	Copy No : 02
Name of Client : AGE (Air) PKP.	Sample Specimen : Length 600mm , Dia 12mm
Ref.ltr.No : EinC/159 of 2024-2025/16/E-6 Dt.30 Dec'2025.	Sample Grade : 60
Project Name : Construction of 1 x Underground Operational Building.	Frog Mark : GPH B-420 DWR.
Dt. of Sample Collection: 08 Jan'2026	

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	0.472 11.98	0.175 113.097	0.594 0.884	0.594 0.884	14839.00 66.01	84649 584	84414 582	19814.55 88.14	113031 780	112992 779	1.34	21	20		
2	0.472 12.00	0.472 11.98	0.175 113.097	0.594 0.884		14713.39 65.45	83932 579		19814.55 88.14	113031 780		1.35	20.5			
3	0.472 12.00	0.472 11.98	0.175 113.097	0.594 0.884		14841.32 66.02	84662 584		19793.61 88.05	112912 779		1.33	19.5			

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.

Oservation 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 Requirements(ASTM A615/A616M-96a)									
Grade	Y/strength N/mm2 or Mpa	Ult.Str N/mm2 or Mpa	Elongation %	ASTM A 615 M		ASTM A 615 M		ASTM A 615/A 615 M					
				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

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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 : 98/2025-2026 (Steel).	Copy No : 03
Name of Client : AGE (Air) PKP.	Sample Specimen : Length 600mm , Dia 16mm
Ref.ltr.No : EinC/159 of 2024-2025/16/E-6 Dt.30 Dec'2025.	Sample Grade : 60
Project Name : Construction of 1 x Underground Operational Building.	Frog Mark : GPH B-420 DWR.
Dt. of Sample Collection: 08 Jan'2026	

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	0.629	0.312	1.059	1.059	24020.15	77075	76903	32512.77	104326	104259	1.35	22			
	16.00	15.98	201.062	1.575		106.85	532		144.62	719						
2	0.630	0.629	0.312	1.059	1.575	24008.52	77038	530	32449.97	104124	719	1.35	22			22
	16.00	15.98	201.062	1.575		106.79	531		144.34	718						
3	0.630	0.629	0.312	1.059	1.575	23871.28	76597	528	32512.77	104326	719	1.36	23			
	16.00	15.98	201.062	1.575		106.18	528		144.62	719						

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.

Oservation 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)												
				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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MATERIALS TESTING LABORATORY MILITARY ENGINEER SERVICES(MES)

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

Job No : 98/2025-2026 (Steel).	Copy No : 04
Name of Client : AGE (Air) PKP.	Sample Specimen : Length 600mm , Dia 20mm
Ref.ltr.No : EinC/159 of 2024-2025/16/E-6 Dt.30 Dec'2025.	Sample Grade : 60
Project Name : Construction of 1 x Underground Operational Building.	Frog Mark : GPH B-420 DWR.
Dt. of Sample Collection: 08 Jan'2026	

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	0.786 19.97	0.4869 314.1593	1.653 2.459	1.653 2.459	36867.25 163.99	75711 522	75867 523	50030.70 222.55	102743 709	103452 713	1.36	23	23		
2	0.787 20.00	0.786 19.97	0.4869 314.1593	1.653 2.459		36797.47 163.68	75568 521		49993.48 222.38	102667 708		1.36	22			
3	0.787 20.00	0.786 19.97	0.4869 314.1593	1.653 2.459		37164.99 165.32	76322 526		51103.04 227.32	104946 724		1.38	23.5			

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/supplier.

Oservation 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 Requirements(ASTM A615/A616M-96a)									
Grade	Y/strength N/mm2 or Mpa	Ult.Str N/mm2 or Mpa	Elongation %	ASTM A 615 M		ASTM A 615 M		ASTM A 615/A 615 M					
				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

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MATERIALS TESTING LABORATORY MILITARY ENGINEER SERVICES(MES)

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

Job No : 98/2025-2026 (Steel).

Copy No : 05

Name of Client : AGE (Air) PKP.

Sample Specimen : Length 600mm , Dia 25mm

Ref.ltr.No : EinC/159 of 2024-2025/16/E-6 Dt.30 Dec'2025.

Sample Grade : 60

Project Name : Construction of 1 x Underground Operational Building.

Frog Mark : GPH B-420 DWR.

Dt. of Sample Collection: 08 Jan'2026

Sample No	Nominal Dia	Actual Dia	Area Under Test	Actual Unit Weight	Average Actual 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	0.984 25.00	0.986 25.04	0.7609 490.8739	2.599 3.867	2.599 3.867	55557.54 247.13	73020 504	72788 502	79139.63 352.03	104014 717	103899 717	1.42	30.5	28		
2	0.984 25.00	0.986 25.04	0.7609 490.8739	2.599 3.867		55173.73 245.42	72515 500		78890.74 350.92	103687 715		1.43	26.5			
3	0.984 25.00	0.986 25.04	0.7609 490.8739	2.599 3.867		55413.32 246.49	72830 502		79125.67 351.97	103996 717		1.43	27			

Cautions:

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2. It is recommended that samples are Sent in asecured 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 Requirements(ASTM A615/A616M-96a)									
Grade	Y/strength N/mm2 or Mpa	Ult.Str N/mm2 or Mpa	Elongation %	ASTM A 615 M			ASTM A 615 M			ASTM A 615/A 615 M			
				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

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