

Crack Stitching Bar

Westox Helical Anchoring System



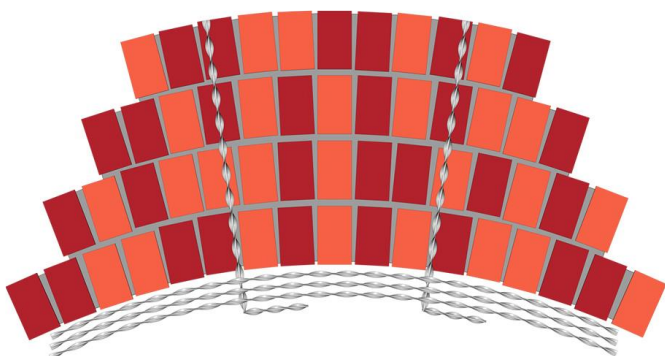
DESCRIPTION

TDS42 Rev8 21/09/23

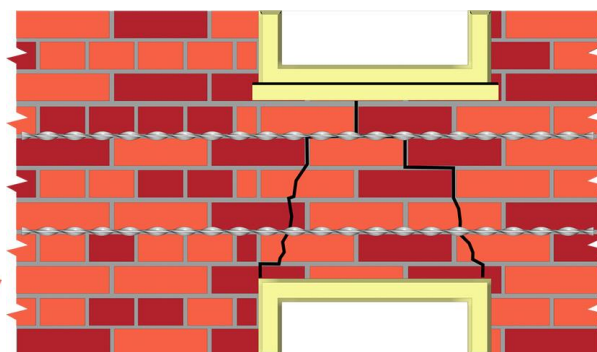
The Westox Crack Stitching Bar offers a permanent fix for cracked brickwork. The bars are an austenitic 316 reinforcing stainless steel rod that has many unique properties. Being rolled from a plain round wire, the fins are work-hardened to a very high level whilst the core remains relatively soft. The subsequent twisting process puts the fins into tension and the core into compression. The tensile strength of the base material is more than doubled during the manufacturing process. The pronounced fins over the core make the bonding characteristics of the Westox Crack Stitching Bar far superior to alternative standard reinforcing materials.

The bar Profile is available in 6mm and 8mm diameters. Length of 100mm up to 10 metres. The material can be supplied in any length and profile to meet the requirements of Structural Engineers and other specifiers.

Uses – The uses of the bars are both wide and varied and they can be utilised in new buildings and for many specialised refurbishment requirements like apartment buildings, historic buildings, bridges and many more.



Arch support and strengthening



Wall cracking

WESTOX

BUILDING PRODUCTS

Crack Stitching Bar

WESTOX CRACK STICKING BAR



Manufactured from austenitic stainless steel 316 supplied in 6 and 8mm diameters and length 1metre or 10 metres.

Applications in remedial situations:

- Unlimited masonry reinforcement and anchorage applications.
- Crack restoration of any type.
- Fixing into all types of stone, brick, hebel materials including concrete.

Applications in new building situations:

- As masonry reinforcement
- As wall connector
- As a cavity wall connector with or without insulation.
- Fixing into all types of stone, brick, hebel materials including concrete.

WESTOX GROUTING MORTAR



Westox Grouting Mortar is a two-component, non-shrinking grouting mortar with a mineral, concrete base. It was specifically developed for a faultless embedding of Westox Crack Stitching Bars into the masonry to complete the system. Available in 5kg and 20kg Kits.

WESTOX CRACK STITCHING BAR APPLICATION



Slot Cutting



Slot Cleaning



Bar Insertion



Finishing



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Mechanical Test Report

Dimensional Examination Results

Method Code: AS/NZS 4671-2001 Sec C3 and ARL MQTP-335 Rev_01
Acceptance Code: Supply Findings
Item Tested: Bar (Nominal Diameters: 6mm and 8mm)
Equipment Used: ARL Vernier Caliper-002 & External Micrometer-001

	<i>Bar Dia: 6mm</i>						<i>Bar Dia: 8mm</i>					
<i>Test Items</i>	1	2	3	4	5	Average of results	1	2	3	4	5	Average of results
Visual Appearance	No recordable discontinuities found					-	No recordable discontinuities found					-
Body Diameter (mm)	3.8	3.8	3.8	3.8	3.8	3.8mm	3.8	3.8	3.8	3.8	3.8	3.8mm
Fins (mm)	5.8	5.8	5.8	5.8	5.8	5.8mm	7.8	7.8	7.8	7.8	7.8	7.8mm
Pitch (mm)	26	26	26	26	26	26mm	34	34	34	34	34	34mm
Length Tested (mm)	297	296	296	297	297	-	291	296	296	297	294	-
Weight (g)	21.65	21.59	21.62	21.73	21.74	-	26.08	26.44	26.38	26.64	26.16	-
Weight (g/m)	72.90	72.94	73.04	73.16	73.20	73.05 g/m	89.62	89.32	89.12	89.70	88.98	89.35 g/m

PMI XRF Test Results

Method Code: ARL QTP 208 Rev_04
Acceptance Code: Supply Findings
Equip' Serial No.: Oxford X-MET 7500
Test Temperature: Ambient

Sample Description	%wt of Elements								Material Specification
	V	Cr	Mn	Fe	Ni	Cu	Nb	Mo	
Sample 1	0.09	16.75	1.14	69.29	8.92	3.52	0.056	0.246	302HQ/ 304Cu
6mm Dia	0.08	16.87	0.94	69.29	8.89	3.29	0.021	0.246	
Sample 2	0.12	16.82	1.05	69.6	8.81	3.33	0.044	0.225	
8mm Dia	0.08	17.05	0.88	69.46	9.01	3.23	0.018	0.261	

Test Results: Supply Findings

Tensile Test Results

Method Code: AS/NZS 4671:2001 Section 7.2.2
Acceptance Code: Supply Findings
Items Tested: Deformed bars, Parallel sections
Equipment Used: ARL Vernier 002, UTM Serial No. 075

Batch Number	Specimen ID	Nominal Cross Stress Area (mm ²)	Ultimate Tensile Load F _m (kN)	Yield Strength R _{p0.2} (MPa)	Ultimate Tensile Strength R _m (MPa)	% Uniform Elongation (A _{gt100mm})
Sample 1 6mm Dia	E0145 1-1	8.1	8.16	605	1010	4
	E0145 1-2		8.32	540	1030	6
	E0145 1-3		7.96	570	985	4
	E0145 1-4		8.94	570	1105	6
	E0145 1-5		7.98	510	985	5
Average of Results:			8.27 kN	559 MPa	1023 MPa	-
Range:			7.96 kN - 8.94 kN	510 MPa - 605 MPa	985 MPa - 1105 MPa	-
Sample 2 8mm Dia	E0145 2-1	10.1	11.18	760	1110	3
	E0145 2-2		11.14	640	1105	3
	E0145 2-3		11.34	810	1125	3
	E0145 2-4		11.24	790	1115	2
	E0145 2-5		10.68	750	1060	2
Average of Results:			11.12 kN	750 MPa	1103 MPa	-
Range:			10.68 kN - 11.34 kN	640 MPa - 810 MPa	1060 MPa - 1125 MPa	-

Test Results: Supply Findings

Note: 316 Type material bars are expected to exceed the tensile properties tested.

Shear Test Results

Method Code: ARL MQTP-335 Rev_01
Acceptance Code: Supply Findings
Items Tested: Deformed bars, Parallel sections
Equipment Used: ARL Vernier 002, UTM Serial No. 075

Batch Number	Specimen ID	Nominal Cross Stress Area (mm ²)	Shear Load (kN)	Shear Strength (MPa)	Mode of Failure
Sample 1 16mm Dia	E0145 1-1	8.1	3.84	475	Bars deformed
	E0145 1-2		4.04	500	
	E0145 1-3		3.00	370	
	E0145 1-4		3.04	375	
	E0145 1-5		3.40	420	
Average of Results:			3.46 kN	428 MPa	-
Range:			3.00 kN - 4.04 kN	370 MPa - 500 MPa	-
Sample 2 28mm Dia	E0145 2-1	10.1	5.34	530	Bars deformed
	E0145 2-2		4.32	430	
	E0145 2-3		4.76	470	
	E0145 2-4		3.92	390	
	E0145 2-5		3.94	390	
Average of Results:			4.46 kN	442 MPa	-
Range:			3.92 kN - 5.34 kN	390 MPa - 530 MPa	-

Test Results: Supply Findings

Note: 316 Type material bars are expected to exceed the shear properties tested.

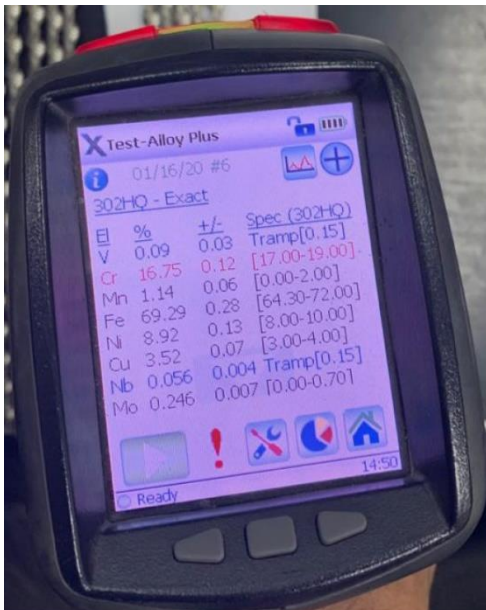


Fig 1. PMI Material Verification Test Result

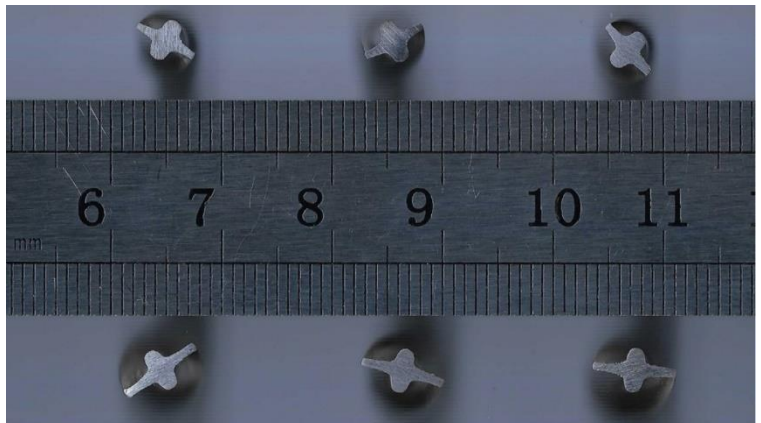


Fig 2. Dimensional Analysis

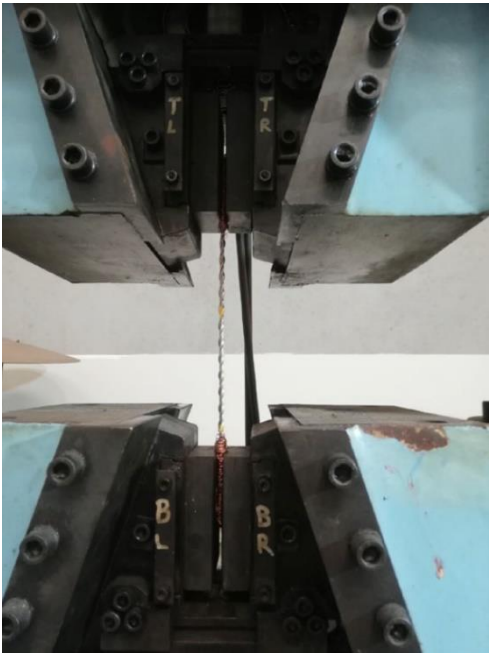


Fig 3. Tensile Test Set Up

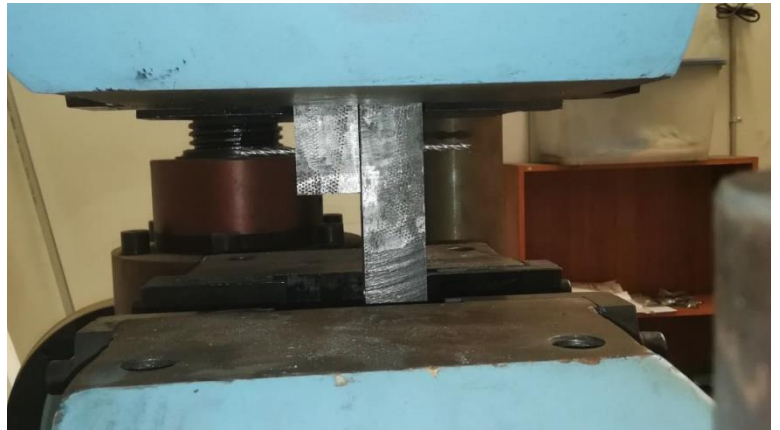


Fig 4. Shear Test Set Up

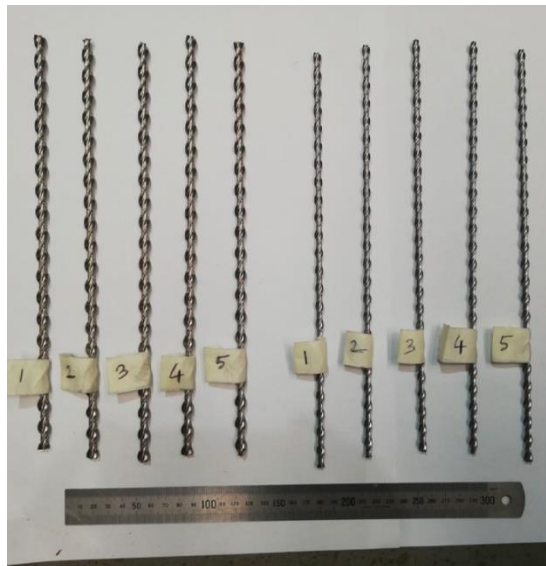


Fig 5. Test Samples as received

Note: 316 Type material bars are expected to exceed the mechanical properties tested.

===== End of Report =====

Report completed by: ARL Laboratory Services Pty Ltd