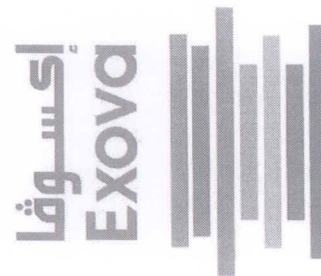


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Test Certificate

Bautech International LLC
P.O. Box 27922
Dubai
U.A.E.

Report Number
Page
Order Number
Date Tested
Date Reported

A 300064 : Issue 2
1 of 2
POD-001997
12/01/13
17/01/13

Attn: Mr. Waleed El - Hussein

Item - 20mm Dia. Threaded Coupler; Ref: D300045
Material Grade: B500B; Coupler ID: CBT(Dia.)20281012
Project: DCL Certificate

Specification - Client Requirement (BS 8110-1:1997)

Tensile Test - BS 8110-1: 1997

	Dimensions [mm]	Area [mm ²]	UTL [kN]	UTS [N/mm ²]	Fracture Location	Fracture Type
001: Coupled Rebar	20.00	314.16	210.50	670	Rebar	--
002: Coupled Rebar	20.00	314.16	208.20	663	Rebar	--
003: Coupled Rebar	20.00	314.16	209.10	666	Rebar	--
Item 01: Permanent Elongation at 60% SMYS = 0.038 mm						
Item 02: Permanent Elongation at 60% SMYS = 0.020 mm						
Item 03: Permanent Elongation at 60% SMYS = 0.011 mm						

Certificate Comments

Test Instructions

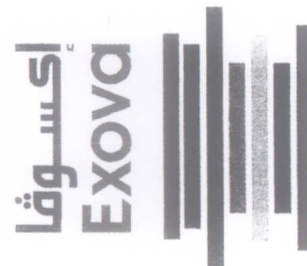
- 1) Apply 30 kN pre-load to assembly
- 2) Fix extensometer and transducer at approx. 70 mm GL
- 3) Zero extension axis on x-y plotter
- 4) Apply tensile load equivalent to 60% of the YS (300 N/mm²)
= 94.2 kN (loading rate 10 N/mm² / second max)
- 5) Terminate load application at 10% YS
- 6) Measure permanent set (maximum specified = 0.1 mm)
- 7) Remove extensometer
- 8) Apply tensile load on test sample until fracture
(loading rate of 120mm/min)

End of Text -----

Tested by Exova Abu Dhabi Laboratory

David Robinson
Operations Manager
Metallogy

For and on authority of
Exova Limited (Abu Dhabi)



SK Engineering
PI Staff Accommodation and
Construction
Abu Dhabi
UAE

Report Number A 200941 : Issue 1
Page 1 of 1
Order Number Contract
Date Tested 18/02/12
Date Reported 19/02/12

Attn: Mr. Mohammed Masood Ahmed

Item - 20mm Dia Threaded Coupled Rebar
Project: PI Staff Accommodation - 5998
Project Owner: ADNOC; Main Contractor: SK Engineering
Consultant: E C G; Source: Steel Rebars from Site
Supplier: Bautech International
Date of Sampling: 13/02/2012 @ 10.00 AM
Location: PI 5998 Project Site
Client Ref: CBT Sample-002

Specification - BS 4449-1988 & 1997

Tensile Test - BS 8110-1: 1997

	Dimensions [mm]	Area [mm ²]	UTL [kN]	UTS [N/mm ²]	Fracture Location	Fracture Type
001: Coupled Rebar	20.00	314.16	194.90	620	Rebar	--

Certificate Comments

Test Instructions
Apply Tensile Load to the Coupled rebar sample at a rate of 120mm/min
until Fracture.
Tensile Strength calculated based on the nominal area given in
BS 4449: 1997
----- End of Text -----

Tested by Exova Abu Dhabi Laboratory

David Robinson
Operations Manager
Metallurgy

For and on authority of
Exova Limited (Abu Dhabi)

Witnessed by S.K.Engineering Rep

ADNOC Representative

Client SK Engineering
PI Staff Accomodation and
Construction
Abu Dhabi
UAE

Ref No A200941 : Issue 1
MIF No 00421

Ord No Contract

Contact Mr. Mohammed Masood Ahmed
Tel No 050-8297846
Fax No 02-5580750
Material CARBON STEEL

Date Instructed 14/02/12
Date Received 14/02/12
Date Required 20/02/12
Engineer Mechanical Test

Item 20mm Dia Threaded Coupled Rebar

Project: PI Staff Accomodation - 5998
Project Owner: ADNOC; Main Contractor: SK Engineering
Consultant: E C G; Source: Steel Rebars from Site
Supplier: Butech International
Date of Sampling: 13/02/2012 @ 10.00 AM
Location: PI 5998 Project Site
Client Ref: CBT Sample-002

Specification BS 4449-1988 & 1997

Tensile Test Test Specification BS 8110-1: 1997

	----- Dimensions ----- [mm]	Area [mm ²]	UTL [kN]	Fracture Type	Fracture Location	UTS MPa
800(001) Coupled Rebar	20.00	314.16	144.9		Rebar	620

Tested By

Date 18/2/12

Worksheet Comments

* Test Instructions

- *Apply Tensile Load to the Coupled rebar sample at a rate of 120mm/min
- *until Fracture.
- *Tensile Strength calculated based on the nominal area given in
- *BS 4449: 1997

Test Report to Include:

Nominal Bar Dia (mm)
Nominal area (mm²)
Breaking Load (kN)
UTS (N/mm²)
Fracture Location
Sample no.:

Witnessed by

SK Engineering and Masood Masood
2- ADNOC
18/2/12

Sawn By..... Machined By..... Spare Material..... Bin Number.....

Overtime Machining Transport Delivery Postage Other Initials
#

Exova Limited (Abu Dhabi)
PO Box 9191

Date 28/06/12 Time 15.43 OpId BDA

A203676

W O R K S H E E T

A203676

Client Crown Emirates Contracting
and Real Estate
PO Box 71815
Abu Dhabi
UAE

Ref No A203676 : Issue 1
MIF No 01782

Ord No RV #

Contact Mr.
Tel No 026211002
Fax No 026255445
Material CARBON STEEL

Date Instructed 28/06/12
Date Received 28/06/12
Date Required 02/07/12
Engineer Mechanical Test

Item 20mm Dia. Treaded Coupler Rebars

Project: Service building for ADNOC HQ
Project Owner: ADNOC, Main Contractor: Crown Emirates Real Estate LLC
Consultant: Crown Eng., Consultant Supplier: Bautech International
Date and time for sampling: 27/6/12 @ 11.0Hrs

Specification Client Requirement

***** W I T N E S S R E Q U I R E D *****

Tensile Test Test Specification BS 8110-1: 1997

	Dimensions [mm]	Area [mm ²]	UTL [kN]	Fracture Type	Fracture Location	UTS (MPa)
451(001) Coupled Rebar ID:1	20 0.00	314.16 0.00	195.4 0.00		Rebar	623
456(002) Coupled Rebar ID:2	20 0.00	314.16 0.00	196.4 0.00		S	627
457(003) Coupled Rebar ID:3	20 0.00	314.16 0.00	209.4 0.00		S	667

Tested By Date 30/6/12

Witnessed By
Client Representative To be confirmed??? 28/6/12

Cons.

Worksheet Comments

- * Test Instructions
- *
- *Apply Tensile Load to the Coupled rebar sample at a rate of 120mm/min
- *until Fracture.
- *Tensile Strength calculated based on the nominal area given in
- *BS 4449: 1997

Test Report to Include:
Nominal Bar Dia (mm)
Nominal area (mm²)
Breaking Load (kn)

REPORT ON MECHANICAL PROPERTIES OF STEEL COUPLERS

Page No. 1 of 1

Contractor: Gulf Technical Construction
 Address: Dubai, U.A.E.
 Consultant: Development Consultant
 Client name: Damac Star Properties
 Project name: The Corner
 Project No: T-45
 Project Location: Business Bay
 Sample Description: 20 mm Deformed Steel Rebar with coupler
 Type of Coupler: Threaded
 Source: Site
 Supplier / Manufacture: Galitech International
 Senders Ref: NP
 Sampling Method: NP
 Structural reference: NP

Sample Certificate	NP	Report No	TSTR-10-447
Sampled by	Contractor	Lab Project No	P0131.10
Sample Size (Nos)	1	Sampling Date	09/08/2010
Sample brought by	Contractor	Date Sample Received	09/08/2010
Lot No	NP	Time Received	1:05 PM
Lot Size (Ton)	NP	Date of Test	10/08/2010
Tested by	MM	Report date	10/08/2010

Test Results

Specimen	1		
Lab Sample No	TSTR-10-447.1		
Nominal Diameter of Steel (mm)	20		
Outer Diameter of coupler (mm)	32		
Original Length of coupler (mm)	46.3		
Permanent elongation at 0.6 f_y (mm)	0.2		
Nominal X-Sectional Area of bar (mm ²)	314.2		
Ultimate tensile stress (N/mm ²)	619.19		
Failure mode	Bar Failure		

Test Method Tensile BS 4449 1997 Annex F BS EN 10002-1 1990 BS 8110 Part 1 1997 Clause 3.12.5.16.2
 Method variation: None
 Remarks: None

Terrasearch
 تيراسيرش الخليج Gulf

Authorized Signatory

Form 01 Rev 01/ Revision 01/2010

Results relate only to the items tested.
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