METLAB (PTY) LTD • REG. #95/13826/07

57 Charl Cilliers Street, Boksburg North
P O Box 1028, Boksburg, 1460
Tel: (011) 917 5173 • Fax: (011) 917 0546
Email: metlab@telkomsa.net
Website: www.metlab.co.za

Director: T.C.W. Brink (Pr.Ing/Eng.)

TEST CERTIFICATE IN ACCORDANCE WITH EN 10204 3.1 OF SAMPLE AS SUPPLIED

Customer:	Joes Fasteners	**Material specification:**	ISO 898-1 Grd 12.9 (09)
Order no:	TBA		
Address:	P.O. Box 53679		
	Troyville	**Description:**	M16 x 100mm Capscrew
	2135		
Telephone:	011 493 1335/ 6854		
Telefax	joesfasteners@gmail.com		
Attention:	Muhammed Mayet	**Identification:**	No ID

CERTIFICATE NUMBER:	11 - 6176 A
Date Received:	Date tested:
03 November 2011	08 November 2011

CHEMICAL PROPERTIES

Element	C	Mn	Si	P	S	Cr	Mo	Ni	Al	Cu	Nb	Ti	V	Sn	Sb	B
Spec required	0.30 - 0.50	-	-	0.025	0.025	-	-	-	-	-	-	-	-	-	-	0.003
Sample Tested	0.42	0.77	0.20	0.019	0.002	0.87	0.002	0.03	0.02	0.03	<0.002	0.001	0.007	0.007	<0.001	<0.001

Results expressed in % **Note:** All values maximum unless otherwise specified.

TENSILE PROPERTIES

Test Temperature 20°C

Tensile direction	Ø mm	Area mm^2	Yield load kN	Max load kN	Yield Point $R_{p0.2}$ MPa	UTS MPa	Hardness HB
Specification and customer requirement				192 min	-	-	366 - 414
Longitudinal - Full size	M16	157.00	187.90	209.30	1197	1333	390

Tests requested, in accordance with spec. provided	X
Tests requested, not in accordance with spec. provided	
No requirements provided	
REMARKS:	

TCW BRINK 001 11 - 6176 A

WITNESS BY: N/A | **TECHNICAL SIGNATORY**

TESTING WAS CARRIED OUT IN ACCORDANCE WITH THE FOLLOWING METLAB PROCEDURES (Supporting international procedures): MECH 30, 33, 34 & 39 (ASTM A370; E8; E21; ISO 6892 Method B; EN10002-5) MECH 31 & 32 (ASTM A370; E23; BS EN 10045-1) MET01 (ASTM E92; E384) MET02 (ASTM E10; A370) MET03 (ASTM E18; A370) MET04 (ASTM B117) MET05 (ASTM A255; E18) MET06 (ASTM E1077) MET07 (ASTM E340; E381) MET08 (ASTM E3; A262) MET09 (ASTM E3; E45) MET10 (ASTM E3; E45) MET11 (ASTM E3; E45; E112; E407) MET13 (ASTM B499) MET14 (ASTM B487) MET 16 (ASTM E110) E110, CHEMS70 & 71 (ASTM E415) CHEMA54 (ASTM E1019)

For conditions relevant to this certificate see reverse side.

T0324

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Director: T.C.W. Brink (Pr.Ing/Eng.)

TEST CERTIFICATE IN ACCORDANCE WITH EN 10204 3.1 OF SAMPLE AS SUPPLIED

Customer:	Joes Fasteners	**Material specification:**	ISO 898-1 Grd 12.9 (09)
Order no:	TBA		
Address:	P.O. Box 53679		
	Troyville	**Description:**	M12 x 60mm Capscrew
	2135		
Telephone:	011 493 1335/ 6854		
Telefax	joesfasteners@gmail.com		
Attention:	Muhammed Mayet	**Identification:**	No ID

CERTIFICATE NUMBER:	11 - 6176 B
Date Received:	Date tested:
03 November 2011	08 November 2011

CHEMICAL PROPERTIES

Element	C	Mn	Si	P	S	Cr	Mo	Ni	Al	Cu	Nb	Ti	V	Sn	Sb	B
Spec required	0.30 - 0.50	-	-	0.025	0.025	-	-	-	-	-	-	-	-	-	-	0.003
Sample Tested	0.42	0.78	0.26	0.013	0.009	0.89	0.001	0.03	0.03	0.03	0.002	0.005	0.008	0.016	0.005	<0.001

Results expressed in % **Note:** All values maximum unless otherwise specified.

TENSILE PROPERTIES

Test Temperature 20°C

Tensile direction	Ø mm	Area mm^2	Yield load kN	Max load kN	Yield Point $R_{p0.2}$ MPa	UTS MPa	Hardness HB
Specification and customer requirement				103 min	-	-	366 - 414
Longitudinal - Full size	M12	84.30	198.90	117.70	2359	1396	393

Tests requested, in accordance with spec. provided	X
Tests requested, not in accordance with spec. provided	
No requirements provided	
REMARKS:	

TCW BRINK 001 11-6176 B

WITNESS BY: N/A **TECHNICAL SIGNATORY**

TESTING WAS CARRIED OUT IN ACCORDANCE WITH THE FOLLOWING METLAB PROCEDURES (Supporting international procedures): MECH 30, 33, 34 & 39 (ASTM A370; E8; E21; ISO 6892 Method B; EN10002-5) MECH 31 & 32 (ASTM A370; E23; BS EN 10045-1) MET01 (ASTM E92; E384) MET02 (ASTM E10; A370) MET03 (ASTM E18; A370) MET04 (ASTM B117) MET05 (ASTM A255; E18) MET06 (ASTM E1077) MET07 (ASTM E340; E381) MET08 (ASTM E3; A262) MET09 (ASTM E3; E45) MET10 (ASTM E3; E45) MET11 (ASTM E3; E45; E112; E407) MET13 (ASTM B499) MET14 (ASTM B487) MET 16 (ASTM E110) E110, CHEMS70 & 71 (ASTM E415) CHEMA54 (ASTM E1019)

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TEST CERTIFICATE IN ACCORDANCE WITH EN 10204 3.1 OF SAMPLE AS SUPPLIED

Customer:	Joes Fasteners	**Material specification:**	ISO 898-1 Grd 12.9 (09)
Order no:	TBA		
Address:	P.O. Box 53679		
	Troyville	**Description:**	M16 x 50mm Capscrew
	2135		
Telephone:	011 493 1335/ 6854		
Telefax	joesfasteners@gmail.com		
Attention:	Muhammed Mayet	**Identification:**	No ID

CERTIFICATE NUMBER:	11 - 6176 C
Date Received:	Date tested:
03 November 2011	08 November 2011

CHEMICAL PROPERTIES

Element	C	Mn	Si	P	S	Cr	Mo	Ni	Al	Cu	Nb	Ti	V	Sn	Sb	B
Spec required	0.30 - 0.50	-	-	0.025	0.025	-	-	-	-	-	-	-	-	-	-	0.003
Sample Tested	0.44	0.78	0.27	0.008	<0.001	0.89	0.003	0.03	0.03	0.02	0.003	0.003	0.007	0.010	0.005	0.001

Results expressed in % **Note:** All values maximum unless otherwise specified.

TENSILE PROPERTIES

Test Temperature 20°C

Tensile direction	Ø mm	Area mm^2	Yield load kN	Max load kN	Yield Point $R_{p0.2}$ MPa	UTS MPa	Hardness HB
Specification and customer requirement				192 min	-	-	366 - 414
Longitudinal - Full size	M16	157.00	198.90	210.70	1267	1342	388

Tests requested, in accordance with spec. provided	X
Tests requested, not in accordance with spec. provided	
No requirements provided	

REMARKS:

TC W BRINK 001 11-6176 C

WITNESS BY: N/A **TECHNICAL SIGNATORY**

TESTING WAS CARRIED OUT IN ACCORDANCE WITH THE FOLLOWING METLAB PROCEDURES (Supporting international procedures): MECH 30, 33, 34 & 39 (ASTM A370; E8; E21; ISO 6892 Method B; EN10002-5) MECH 31 & 32 (ASTM A370; E23; BS EN 10045-1) MET01 (ASTM E92; E384) MET02 (ASTM E10; A370) MET03 (ASTM E18; A370) MET04 (ASTM B117) MET05 (ASTM A255; E18) MET06 (ASTM E1077) MET07 (ASTM E340; E381) MET08 (ASTM E3; A262) MET09 (ASTM E3; E45) MET10 (ASTM E3; E45) MET11 (ASTM E3; E45; E112; E407) MET13 (ASTM B499) MET14 (ASTM B487) MET 16 (ASTM E110) E110, CHEMS70 & 71 (ASTM E415) CHEMA54 (ASTM E1019)

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