



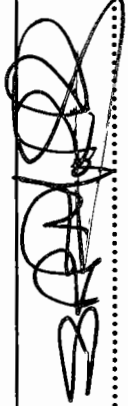
TEST CERTIFICATE FOR CLASS "B" DROP FORGED RIGHT-ANGLE (RA) COUPLERS

Certificate:	36618/M/1	Test Date:	12 April 2007
Samples Received:	26 March 2007	Tested By:	SRPM/AD
Reference:	Proforma Invoice P0179	Test Procedure:	Bearing Capacity ($\Delta 1$ & $\Delta 2$)

Client:	Yahua Forging Co LTD East Guangzhuang Road, Shenggao Twon, Jiangyan City, China
----------------	---

Determination of Behaviour Under Load Using the Methods Described in Paras 9.2 & 9.2.1 of Superseded BS 1139 : Section 2.1 : 1991 (EN 74 : 1988)			
Sample Identification	Hexagonal Nut Position	Tightening Torque (Nm)	COMMENTS
MN 146/A	Lower	60	Acceptable Acceptable
	Upper	60	
Specification: EN 74 : 1988		40 Nm - 80 Nm	0.5 mm Max
Remarks: Coupler MN 146 complied with the acceptance requirements of Superseded BS 1139 : Section 2.1, 1991 (EN 74 : 1988) for Class B bearing capacities (ΔJ). The above coupler was attached to $\varnothing 48.3$ mm hot-dipped galvanised scaffold tube having a nominal wall thickness of 4mm. The coupler's bolt threads were prepared to the requirements of para 9.1.6.			
Markings: EN74BB06 ALB888US			

For Sandberg LLP:


.....
S R P Morris - Engineer

Report Date: 18 April 2007

Materials, samples and test specimens are retained for a period of 2 months from the issue of the final report.
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.



SANDBERG

INVESTIGATION INSPECTION
MATERIALS TESTING

Sandberg LLP
40 Grosvenor Gardens
London SW1W 0EB

Tel: 020 7565 7000
Fax: 020 7565 7100
email: ho@sandberg.co.uk
web: www.sandberg.co.uk

TEST CERTIFICATE FOR CLASS B" DROP FORGED RIGHT-ANGLE (RA) COUPLERS

Certificate:	36618/M/2	Test Date:	16 April 2007
Samples Received:	26 March 2007	Tested By:	TP/AD
Reference:	Proforma Invoice P0179	Test Procedure:	Ultimate Load Capacity

Client:	Yahua Forging Co LTD	Address:	East Guangzhuang Road, Shenggao Town, Jiangsu Province, China
----------------	----------------------	-----------------	--

Determination of Ultimate Load Capacity, Using the Methods Described in para 9.4 of Superseded BS 1139 : Section 2.1 : 1991 (EN 74 : 1988)			
Sample Identification	Maximum Applied Test Force (kN)	Minimum Required Test Force (kN)	COMMENTS
MN 146/B	50.0	30.0	Acceptable

Remarks: Coupler MN 146/B complied with the acceptance requirements of Superseded BS 1139 : Section 2.1, 1991 (EN 74 1988) for Class B Ultimate Load capacity.

Markings: EN74BB06 ALB888US



.....
S R P Morris - Engineer

For Sandberg LLP:

Report Date: 18 April 2007

Materials, samples and test specimens are retained for a period of 2 months from the issue of the final report.
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.



TEST CERTIFICATE FOR DROP FORGED SWIVEL (SW) COUPLERS

Certificate:	36618/M/3	Test Date:	12 April 2007
Samples Received:	26 March 2007	Tested By:	SRPM/AD
Reference:	Proforma Invoice P0179	Test Procedure:	Bearing Capacity ($\Delta 1$, $\Delta 2$ & $\Delta 3$)

Client:	Yahua Forging Co LTD East Guangzhuang Road, Shenggao Twon, Jiangyan City, China
----------------	---

Determination of Behaviour Under Load Using the Methods Described in Para 9.3 of Superseded BS 1139 : Section 2.1 : 1991 (EN 74 : 1988)			
Sample Identification	Hexagonal Nut Position	Tightening Torque (Nm)	COMMENTS
MN 147/A MN 147/B	Upper	60	$\Delta 2$ Displacement (mm) at force 8.5 kN Acceptable Acceptable
	Lower	60	
Specification:		EN 74 : 1988	0.5 mm Max
Remarks: Couplers MN 147/A&B complied with the acceptance requirements of Superseded BS 1139 : Section 2.1, 1991 (EN 74 : 1988) for bearing capacities (Δj). The above couplers were attached to \varnothing 48.3mm hot-dipped galvanised scaffold tube having a nominal wall thickness of 4mm. The couplers bolt threads were prepared to the requirements of para 9.1.6.			
Markings: EN 74A06 AL889US			

.....

 S R P Morris - Engineer

For Sandberg LLP:

Report Date: 18 April 2007

Materials, samples and test specimens are retained for a period of 2 months from the issue of the final report.
 Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.



SANDBERG

CONSULTING ENGINEERS
INVESTIGATION INSPECTION
MATERIALS TESTING

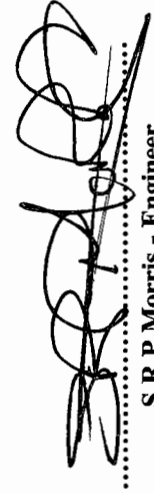
Sandberg LLP
40 Grosvenor Gardens
London SW1W 0EB
Tel: 020 7565 7000
Fax: 020 7565 7100
email: ho@sandberg.co.uk
web: www.sandberg.co.uk

TEST CERTIFICATE FOR DROP FORGED SWIVEL (SW) COUPLERS

Certificate:	36618/M/4	Test Date:	16 April 2007
Samples Received:	26 March 2007	Tested By:	TP/AD
Reference:	Proforma Invoice P0179	Test Procedure:	Ultimate Load Capacity

Client:	Yahua Forging Co LTD	Address:	East Guangzhuang Road, Shenggao Town, Jiangsu Province, China
----------------	----------------------	-----------------	--

Determination of Ultimate Load Capacity, Using the Methods Described in para 9.4 of Superseded BS 1139 : Section 2.1 : 1991 (EN 74 : 1988)			
Sample Identification	Maximum Applied Test Force (kN)	Minimum Required Test Force (kN)	COMMENTS
MN 147/A	36.0	17.0	Acceptable
Remarks: Coupler MN 147/A complied with the acceptance requirements of Superseded BS 1139 : Section 2.1, 1991 (EN 74 1988) for Ultimate Load capacity.			
Markings: EN74A06 AL888US			

.....

 S R P Morris - Engineer

For Sandberg LLP:

Report Date: 18 April 2007

Materials, samples and test specimens are retained for a period of 2 months from the issue of the final report.
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

SANDBERG

CONSULTING ENGINEERS
INVESTIGATION INSPECTION
MATERIALS TESTING

Sandberg LLP
40 Grosvenor Gardens
London SW1W 0EB

Tel: 020 7565 7000
Fax: 020 7565 7100
email: ho@sandberg.co.uk
web: www.sandberg.co.uk

TEST CERTIFICATE FOR CLASS "B" TENSILE TESTING OF PRESSED STEEL SLEEVE COUPLERS

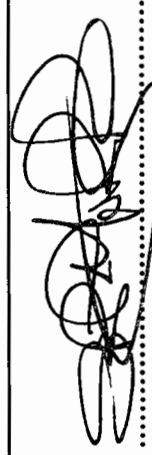
Certificate:	36618/M/5	Test Date:	16 April 2007
Sample Received:	26 March 2007	Tested By:	TP/AD
Reference:	Proforma Invoice P0179	Test Procedure :	Tensile Testing

Client:	Yahua Forging Co LTD	Address:	East Guangzhuang Road, Shenggao Town, Jiangsu Province, China
---------	----------------------	----------	--

Tension Testing , using Methods in Para 9.6.3.2 of Superseded BS 1139 : Section 2.1 : 1991 (EN 74 : 1988)			
Sample Identification	Tightening Torque (Nm)	Applied Test Force (kN)	Δ Displacement (mm)
MN 148/A	40	6.0	0.130
Specification: EN 74 : 1988	40 Nm - 80 Nm	6.0 kN - Min	2.0 mm - Max

Remarks: Coupler MN 148/A complied with the acceptance requirements of Superseded BS 1139 : Section 2.1 : 1991 (EN 74 : 1988) for Class B Load category. The above coupler was attached to ø 48.3mm hot-dipped galvanised scaffold tube having a nominal wall thickness of 4mm Bolt threads were prepared to the requirements of para 9.1.6.

Markings: BS 1139



S R P Morris - Engineer

For Sandberg LLP:

Report Date: 18 April 2007

Materials, samples and test specimens are retained for a period of 2 months from the issue of the final report. Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

SANDBERG

INVESTIGATION INSPECTION
MATERIALS TESTING

Sandberg LLP
40 Grosvenor Gardens
London SW1W 0EB

Tel: 020 7565 7000
Fax: 020 7565 7100
email: ho@sandberg.co.uk
web: www.sandberg.co.uk

TEST CERTIFICATE FOR CLASS "B" PRESSED STEEL SLEEVE COUPLERS

Certificate:	36618/M/6	Test Date:	16 April 2007
Sample Received:	26 March 2007	Tested By:	TP/AD
Reference:	Proforma Invoice P1079		
		Test Procedure :	Bend Test

Client:	Yahua Forging Co LTD	Address:	East Guangzhuang Road, Shenggao Town, Jiangsu Province, China
---------	----------------------	----------	--

Bending Load Testing, Using the Method Described in Para 9.7 of BS 1139 : Section 2.1 : 1991 (EN74 : 1988)			
Sample Identification	Hexagonal Nut Position	Tightening Torque (Nm)	Applied Test Force (kN)
MN 148/B	Upper	50	19.0
		40 Nm - 80 Nm	19.0 kN - Min
Specification:	EN 74 : 1988		5.0 mm - Max
			9.45
			Δ4 Displacement (mm)
			COMMENTS
			Unacceptable

Remarks: Coupler MN 148/B failed to comply with the acceptance requirements of Superseded BS 1139 : Section 2.1 : 1991 (EN 74 : 1988) for Class B Load categories. Coupler MN 148/B failed to exhibit sufficiently legible "Markings & Designations" in accordance with the requirements of paras 11 & 12 of EN 74. The above coupler was attached to ø 48.3mm hot-dipped galvanised scaffold tube having a nominal wall thickness of 4mm. The coupler's bolt threads were prepared to the requirements of para 9.1.6.

Markings: BS 1139


.....
S R P Morris - Engineer

For Sandberg LLP:

Report Date: 18 April 2007

Materials, samples and test specimens are retained for a period of 2 months from the issue of the final report.
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

SANDBERG

CONSULTING ENGINEERS
INVESTIGATION INSPECTION
MATERIALS TESTING

Sandberg LLP
40 Grosvenor Gardens
London SW1W 0EB

Tel: 020 7565 7000
Fax: 020 7565 7100
email: ho@sandberg.co.uk
web: www.sandberg.co.uk

TEST CERTIFICATE FOR SLIP TESTING OF DROP FORGED PUT-LOG COUPLERS.

Certificate:	36618/M/7	Test Date:	11 April 2007
Sample Received:	26 March 2007	Tested By:	AK/AD
Reference:	Proforma Invoice P1079	Test Procedure :	Horizontal Slip

Client:	Yahua Forging Co LTD	Address:	East Guangzhuang Road, Shenggao Town, Jiangsu Province, China
---------	----------------------	----------	---

Horizontal Slip Testing , Using the Method Described in Para 11 of BS 1139 : Section 2.2 : 1991			
Sample Identification	Tightening Torque (Nm)	Actual Force (kN) Required to Produce Slip of the Horizontal Tube	Minimum Force (kN) Required to be Resisted
MN 149	50	1.67	1.2
Remarks: Put-log coupler MN 149 complied with the acceptance requirements of BS 1139 : Section 2.2 : 1991. The above couplers were attached to Ø 48.3mm hot-dipped galvanised scaffold tube having a nominal wall thickness of 4mm			COMMENTS
Markings: Prime EN74A G1-07-02			Acceptable



S R P Morris - Engineer

For Sandberg LLP:

Report Date: 18 April 2007

Materials, samples and test specimens are retained for a period of 2 months from the issue of the final report.
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

SANDBERG

INVESTIGATION INSPECTION
CONSULTING ENGINEERS MATERIALS TESTING

Sandberg LLP
40 Grosvenor Gardens
London SW1W 0EB

Tel: 020 7565 7000
Fax: 020 7565 7100
email: ho@sandberg.co.uk
web: www.sandberg.co.uk

TEST CERTIFICATE FOR PERFORMANCE TESTING OF DROP FORGED GIRDER CLAMP COUPLERS

Certificate:	36618/M/8	Test Date:	16 April 2007
Samples Received:	26 March 2007	Tested By:	TP/AD
Reference:	Proforma Invoice P0179	Test Procedure:	X Axis

Client:	Yahua Forging Co LTD	Address	East Guangzhuang Road, Shenggao Town, Jiangsu Province, China
---------	----------------------	---------	---

TEST RESULTS FOR LATERAL SLIPPAGE IN THE X AXIS			
Sample Identification	Tightening Torque (Nm)	Recommended Safe Working Load 10 kN	Comments
MN 150/A&B	50	No Slippage Apparent	Results Acceptable, Girder Clamps Resisted Slippage
Remarks: The Girder clamp couplers MN 150/A&B, accepted a test force of 10 kN without exhibiting any significant signs of slippage between the coupler component and that of the scaffold tube.			

Lab Form : met100b.wpd

For Sandberg LLP:



S R P Morris - Engineer

Report Date: 18 April 2007

Materials, samples and test specimens are retained for a period of 2 months from the issue of the final report.
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

SANDBERG

CONSULTING ENGINEERS
INVESTIGATION INSPECTION
MATERIALS TESTING

Sandberg LLP
40 Grosvenor Gardens
London SW1W 0EB

Tel: 020 7565 7000
Fax: 020 7565 7100
email: ho@sandberg.co.uk
web: www.sandberg.co.uk

TEST CERTIFICATE FOR PERFORMANCE TESTING OF DROP FORGED GIRDER CLAMP COUPLERS

Certificate:	36618/M/9	Test Date:	16 April 2007
Samples Received:	26 March 2007	Tested By:	TP/AD
Reference:	Proforma Invoice P0179	Test Procedure:	Y Axis
Client:	Yahua Forging Co LTD	Address	East Guangzhuang Road, Shenggao Town, Jiangsu Province, China

TEST RESULTS FOR LATERAL SLIPPAGE IN THE Y AXIS		
Sample Identification	Tightening Torque (Nm)	Comments
MN 150/A&B	50	Results Acceptable, No Failure of Girder Clamps Occurred
Remarks: The Girder clamp couplers MN 150/A&B, accepted a test force of 30 kN without exhibiting any significant signs of slippage between the coupler component and that of the scaffold tube.		

Lab Form : met100b.wpd

For Sandberg LLP:



.....
S R P Morris - Engineer

Report Date: 18 April 2007

Materials, samples and test specimens are retained for a period of 2 months from the issue of the final report.
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

TEST CERTIFICATE FOR PERFORMANCE TESTING OF DROP FORGED GIRDER CLAMP COUPLERS

Certificate:	36618/M/10	Test Date:	16 April 2007
Samples Received:	26 March 2007	Tested By:	TP/AD
Reference:	Proforma Invoice P0179	Test Procedure:	Z Axis
Client:	Yahua Forging Co LTD	Address	East Guangzhuang Road, Shenggao Town, Jiangsu Province, China

TEST RESULTS FOR LATERAL SLIPPAGE IN THE Z AXIS

Sample Identification	Tightening Torque (Nm)	Recommended Safe Working Load 6.5 kN	Comments
MN 150/A&B	50	No Slippage Apparent	Acceptable, Girder Clamps Resisted Slippage at recommended safe working load.
Remarks: The Girder clamp couplers MN 150/A&B, accepted a test force of 6.5 kN without exhibiting any significant signs of slippage between the coupler component and that of the scaffold tube.			

Lab Form : met100b.wpd

For Sandberg LLP:



.....
S R P Morris - Engineer

Report Date: 18 April 2007

Materials, samples and test specimens are retained for a period of 2 months from the issue of the final report.
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.