


# Schedule of Accreditation

issued by

## United Kingdom Accreditation Service

21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

 <p><b>UKAS</b> CALIBRATION</p> <p><b>0256</b></p> <p>Accredited to <b>ISO/IEC 17025:2005</b></p>	<h3>Norbar Torque Tools Limited</h3> <p><b>Issue No: 021    Issue date: 26 February 2010</b></p>	
	<p><b>Beaumont Road</b> <b>Banbury</b> <b>Oxfordshire</b> <b>OX16 1XJ</b></p>	<p><b>Contact: Mr B Pratt</b> <b>Tel: +44 (0)1295-270333</b> <b>Fax: +44 (0)1295-753643</b> <b>E-Mail: enquiry@norbar.com</b> <b>Website: www.norbar.com</b></p>
<p><b>Calibration performed at the above address only</b></p>		

### DETAIL OF ACCREDITATION

Measured Quantity Instrument or Gauge	Range	Best Measurement Capability Expressed as an Expanded Uncertainty ( $k=2$ )	Remarks		
<b>TORQUE</b>			<b>NOTES</b>		
Hand torque tools	To BS EN ISO 6789:2003 0.1 N-m to 3000 N-m	0.3% See Notes 2 and 3	1 All calibrations must be carried out in accordance with procedures agreed by UKAS.		
Torque Multiplying Gearboxes	Documented In-House Method 50 N-m to 6800 N-m	1.0% See Notes 2 and 3	2 The uncertainty quoted is for the application of the calibration torque and does not take into account the characteristics of the device being calibrated.		
Mechanical and Electronic Torque Calibration Equipment	To BS EN 7882:2008 0.005 N-m to 1500 N-m	0.02% See Note 2, 3 and 4	3 Calibrations may also be given in lbf.in and lbf.ft.		
	To BS EN 7882:2008 0.005 N-m to 6800 N-m	0.03% See Note 2, 3 and 4			
	To BS EN 7882:2008 1000 N.m to 4000 N-m	0.4% see note 2, 3 and 4			
Electrical torque indicators	4000 N.m to 108500 N-m	0.2% see note 2, 3 and 4	4 Calibrations may also be given in units of electrical signal output, including voltage Ratio measurements.		
	Documented In-House Method 0.5 mV dc	0.13% See Notes 6 & 8			
	1.0 mV dc	0.08% See Notes 6 & 8			
	2.0 mV to 16.5 mV dc	0.07% See Notes 6 & 8			
LENGTH	5 V dc	0.0014% See Note 8	5 The length may also be given in inch units.		
	0.05 Vdc	0.35% See Notes 6 and 7			
	0.10 Vdc	0.18% See Notes 6 and 7			
	0.20 Vdc to 2.00 Vdc	0.11% See Notes 6 and 7			
	10 mA to 22 mA dc	0.014% See Note 7			
	Torque Beam Radius	Documented In-House Method up to 1.2 m		7 $\mu$ m See Note 5	6 Calibrations may be given in units of torque as appropriate.
					7 The uncertainties quoted are for Norbar ETS 40320 series of display instruments. The uncertainties may be increased for other types of electrical torque indicator.



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Measured Quantity Instrument or Gauge	Range	Best Measurement Capability Expressed as an Expanded Uncertainty ( $k=2$ )	Remarks
			<p>NOTES (cont'd)</p> <p>8. The uncertainties quoted are for the Norbar Torque Tool Tester 43228 series of display instruments when used with a device which has a nominal output of 2 mV/V. The uncertainties may be increased if the Torque Tool Tester 43228 is used with devices whose nominal output is less than 2 mV/V. The uncertainties may also be increased for other types of electrical torque indicator.</p>
END			