



The Dutch Accreditation Council RvA, by law appointed as the national accreditation body for The Netherlands, hereby declares that accreditation has been granted to:

TRESCAL Hengelo B.V. Calibration Laboratory Hengelo

The organisation has demonstrated to be able to generate technical valid results in a competent way and work according to a management system.

This accreditation is based on an assessment against the requirements as laid down in EN ISO/IEC 17025:2017.

The accreditation covers the activities as specified in the authorized annex bearing the registration number.

The accreditation is valid provided that the organisation continues to meet the requirements.

The accreditation with registration number:

K 018

is granted on 15 September 1980

This declaration is valid until

1 December 2028

The board of the Dutch Accreditation Council,
on its behalf,

mr. J.A.W.M. de Haas

A large, stylized handwritten signature in blue ink, which appears to be 'J.A.W.M. de Haas', is written over the printed name.

of **TRESCAL Hengelo B.V.**
Calibration Laboratory

This annex is valid from: **24-04-2025 to 01-12-2028**

Replaces annex dated: **02-10-2024**

Location(s) where activities are performed under accreditation

Head Office

Joseph Schumpeterstraat 10
 7559 SG
 Hengelo
 The Netherlands

Location	Abbreviation/ location code
Joseph Schumpeterstraat 10 7559 SG Hengelo The Netherlands	HLO
On site	OS

HCS code	Measured quantity, Instrument, Measure	Range	CMC ¹	Remarks	Location
DM 0 0	DIMENSIONAL QUANTITIES				
DM 1 0	Gauge blocks				HLO
	Gauge blocks, steel	0.5 mm – 100 mm 0.02 inch – 4 inch	$0.06 \mu\text{m} + 1.2 \cdot 10^{-6} /$	Central length, fixed sizes	
	Gauge blocks, tungsten carbide	0.5 mm – 100 mm 0.02 inch – 4 inch	$0.06 \mu\text{m} + 0.7 \cdot 10^{-6} /$	Central length, fixed sizes	
	Gauge blocks, ceramic	0.5 mm – 100 mm 0.02 inch – 4 inch	$0.06 \mu\text{m} + 1.0 \cdot 10^{-6} /$	Central length, fixed sizes	

This annex has been approved by the Board of the
 Dutch Accreditation Council, on its behalf,

J.A.W.M. de Haas

¹ Calibration and Measurement Capability (CMC): Demonstrated measurement uncertainty, with coverage probability of 95%, in a given measurement point or measurement range. Measurement uncertainty, U , is calculated according to EA-4/02 "Expression of the Uncertainty of Measurement in Calibration".

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	Gauge blocks, steel / tungsten carbide / ceramic		$0.05 \mu\text{m} + 0.1 \cdot 10^{-6} \cdot l$	Length variation	
	Step gauge	up to 1000 mm	$1.2 \mu\text{m} + 6.0 \cdot 10^{-6} \cdot l$		
DM 1 0	Length gauges			Comparative measure	HLO
	Steel	125 mm – 500 mm	$0.2 \mu\text{m} + 3 \cdot 10^{-6} \cdot l$		
DM 2 0	Line scales, distances				HLO
	Rulers (all models)	up to 300 mm	$0.8 \mu\text{m} + 4 \cdot 10^{-6} \cdot l$		
		up to 600 mm	$1.1 \mu\text{m} + 4 \cdot 10^{-6} \cdot l$		
		up to 3000 mm	$6 \mu\text{m} + 5 \cdot 10^{-6} \cdot l$		
		up to 100 m	$6 \mu\text{m} + 6 \cdot 10^{-6} \cdot l$		
DM 3 0	Length measuring instruments				HLO, OS
	1D-measuring machines ⁽ⁱ⁾			Laser interferometer; machine equipped with	
		up to 20 m	$0.15 \mu\text{m} + 0.7 \cdot r + 1.0 \cdot 10^{-6} \cdot l$	Zerodur scales	
		up to 20 m	$0.15 \mu\text{m} + 0.7 \cdot r + 1.3 \cdot 10^{-6} \cdot l$	Glass scales	
		up to 20 m	$0.15 \mu\text{m} + 0.7 \cdot r + 1.6 \cdot 10^{-6} \cdot l$	Steel scales	
		up to 400 mm	$0.3 \mu\text{m} + 0.7 \cdot r + 3 \cdot 10^{-6} \cdot l$	Optical systems	
		up to 700 mm	$0.05 \mu\text{m} + 0.5 \cdot 10^{-6} \cdot l + S$	Using special gauge blocks	

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	Handheld tools for external measurements	0 mm – 200 mm	$0.45 \mu\text{m} + 0.5 \cdot r + 25 \cdot 10^{-6} \cdot l$	e.g. vernier, micrometer	
		200 mm – 2000 mm	$4 \mu\text{m} + 0.5 \cdot r + 5 \cdot 10^{-6} \cdot l$		
	Handheld tools for internal measurements (2-point)	0 mm – 200 mm	$0.7 \mu\text{m} + 0.5 \cdot r + 25 \cdot 10^{-6} \cdot l$	e.g. vernier, internal micrometer	
		200 mm – 400 mm	$5 \mu\text{m} + 0.5 \cdot r + 4 \cdot 10^{-6} \cdot l$		
	Handheld tools for internal measurements (2- and 3-point)	1 mm – 250 mm	$1.5 \mu\text{m} + 0.5 \cdot r + 25 \cdot 10^{-6} \cdot l$	e.g. internal micrometers	
	Handheld tools for height- and depth measurements	0 mm – 200 mm	$0.7 \mu\text{m} + 0.5 \cdot r + 25 \cdot 10^{-6} \cdot l$	e.g. (depth) vernier	
		200 mm – 500 mm	$4 \mu\text{m} + 0.5 \cdot r + 5 \cdot 10^{-6} \cdot l$		
	Linear displacement sensor	up to 200 mm	$0.05 \mu\text{m} + 0.7 \cdot r + 2.5 \cdot 10^{-6} \cdot l + S$	e.g. dial gauge	
		200 mm – 300 mm	$0.7 \mu\text{m} + 0.7 \cdot r + 3.5 \cdot 10^{-6} \cdot l$	e.g. dial gauge	HLO
	Height gauge	up to 1500 mm	$0.8 \mu\text{m} + 0.7 \cdot r + 2.5 \cdot 10^{-6} \cdot l$		HLO, OS
	Inside micrometer	up to 300 mm	$0.7 \mu\text{m} + 0.7 \cdot r + 2.5 \cdot 10^{-6} \cdot l$		
		300 mm – 1000 mm	$0.4 \mu\text{m} + 0.7 \cdot r + 2 \cdot 10^{-6} \cdot l$		
		1000 mm – 3000 mm	$0.4 \mu\text{m} + 0.7 \cdot r + 2 \cdot 10^{-6} \cdot l$		HLO
	Film thickness gauge	up to 25 mm	$0.6 \mu\text{m} + 0.7 \cdot r + 22 \cdot 10^{-6} \cdot l$		
	Laser distance meter	up to 25 m	$0.5 \text{ mm} + 40 \cdot 10^{-6} \cdot l + 0.6 \cdot r$		

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DM 4 0	Diameter, length				HLO
	Setting rings and ring gauges	Ø 1 mm – 4 mm	$1.2 \mu\text{m} + 6 \cdot 10^{-6} \cdot l$		
		Ø 4 mm – 200 mm	$1.0 \mu\text{m} + 2 \cdot 10^{-6} \cdot l$		
		Ø 200 mm – 500 mm	$1.2 \mu\text{m} + 6 \cdot 10^{-6} \cdot l$		
	Pin gauge	up to Ø 300 mm	$0.8 \mu\text{m} + 2.5 \cdot 10^{-6} \cdot l$		
	Plug gauge	up to Ø 300 mm	$0.8 \mu\text{m} + 2.5 \cdot 10^{-6} \cdot l$		
	Thread wires	up to Ø 20 mm	$0.8 \mu\text{m} + 2.5 \cdot 10^{-6} \cdot l$		
	Other external diameters	up to Ø 100 mm	$0.5 \mu\text{m} + (1+6 \cdot \Delta T) \cdot 10^{-6} \cdot l$		HLO, OS
		up to Ø 300 mm	$0.8 \mu\text{m} + 2.5 \cdot 10^{-6} \cdot l$		HLO
	Other internal diameters	Ø 1 mm – 4 mm	$1.2 \mu\text{m} + 6 \cdot 10^{-6} \cdot l$		
		Ø 4 mm – 200 mm	$1.0 \mu\text{m} + 2 \cdot 10^{-6} \cdot l$		
		Ø 200 mm – 500 mm	$1.2 \mu\text{m} + 6 \cdot 10^{-6} \cdot l$		
	Feeler gauges	up to 5 mm	$0.8 \mu\text{m} + 2.5 \cdot 10^{-6} \cdot l$		
	Setting gauges for micrometers	up to 300 mm	$0.8 \mu\text{m} + 2.5 \cdot 10^{-6} \cdot l$		HLO, OS
		300 mm – 1000 mm	$0.4 \mu\text{m} + 2 \cdot 10^{-6} \cdot l$		HLO, OS
		1000 mm – 3000 mm	$0.4 \mu\text{m} + 2 \cdot 10^{-6} \cdot l$		HLO
	Other distances for parallel faces	up to 300 mm	$0.8 \mu\text{m} + 2.5 \cdot 10^{-6} \cdot l$		HLO, OS
		300 mm – 1000 mm	$0.4 \mu\text{m} + 2 \cdot 10^{-6} \cdot l$		HLO, OS
		1000 mm – 3000 mm	$0.4 \mu\text{m} + 2 \cdot 10^{-6} \cdot l$		HLO
	Conical (taper) ring and pin	Ø 1 mm – 500 mm	$1.8 \mu\text{m} + 0.4 \cdot 10^{-6} \cdot l$	$h \leq 390 \text{ mm}$	HLO

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HCS code	Measured quantity, Instrument, Measure	Range	CMC ¹	Remarks	Location
DM 5 0	Form error				
	Roundness in- and externally	Ø 1 mm – 500 mm	$0.05 \mu\text{m} + 0.01 \cdot A$	A=roundness deviation	HLO
	Roundness testers and other instruments for measuring roundness		$0.04 \mu\text{m} + 0.5 \cdot r$	(i)	HLO, OS
	Knife edge straight edge	up to 100 mm	0.25 μm		
		100 mm – 300 mm	0.6 μm		
		300 mm – 500 mm	0.7 μm		
	Straight edge	up to 10 m	$0.4 \mu\text{m} + 0.25 \cdot 10^{-6} \cdot l$		
	Surface plate	Up to 6 x 10 m ²	$0.2 \mu\text{m} + 1.5 \cdot 10^{-6} \cdot l$	l = longest side of the surface plate	
	Flick standard (roundness standard)		0.15 μm		HLO
DM 6 0	Roughness (i)				
	Surface texture measuring instruments	Ra up to 5 μm	$0.01 \mu\text{m} + 0.02 \cdot A + 0.5 \cdot r + S$	A = Ra-value of reference	HLO, OS
		Rz up to 10 μm	$0.01 \mu\text{m} + 0.05 \cdot A + 0.5 \cdot r + S$	A = Rz-value of reference	
		Rt Rmax up to 10 μm	$0.01 \mu\text{m} + 0.05 \cdot A + 0.5 \cdot r + S$	A = Rt Rmax-value of reference	
	Roughness standards	Ra up to 10 μm	$0.015 \mu\text{m} + 0.045 \cdot A$	A = measured Ra-value	HLO
		Rz up to 15 μm	$0.025 \mu\text{m} + 0.07 \cdot A$	A = measured Rz-value	
		Rt (Rmax) up to 15 μm	$0.025 \mu\text{m} + 0.07 \cdot A$	A = measured Rt (Rmax)-value	
	Groove depth (-standaard)	up to 6 mm	$0.05 \mu\text{m} + 0.007 \cdot A$	A = measured profile height	HLO

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DM 7 0	Thread quantities external			e.g. screw plug gauge	HLO
	Pitch	up to 10 mm	2 μ m		
	Profile angle	up to 180°	(0.2 + 9/L) arcmin		
	Simple pitch diameter	Ø 1 mm – 300 mm	$\alpha = 30^\circ$: (6.0 – 7.5) μ m	According to Euramet/CG-10/V.02, method 1a or 1b	
		Ø 1 mm – 300 mm	$\alpha = 55^\circ 60^\circ$: (3.2 – 4.1) μ m		
		Ø 1 mm – 300 mm	$\alpha = 90^\circ$: (2.6 – 3.4) μ m		
	Pitch diameter	Ø 1 mm – 300 mm	$\alpha = 30^\circ$: (6.0 – 7.5) μ m	According to Euramet/CG-10/V.02, method 2a, 2b or 3	
		Ø 1 mm – 300 mm	$\alpha = 55^\circ 60^\circ$: (3.2 – 4.1) μ m		
		Ø 1 mm – 300 mm	$\alpha = 90^\circ$: (2.6 – 3.4) μ m		
DM 7 0	Thread quantities				HLO
	Thread quantities measured with master scanner (<i>Thread trapezium excluded</i>)			Method 4 according to TCGM – 04.05 d = nominal diameter α = flank angle P = pitch Cylindrical & Conical thread	
	Thread plug gauges (external thread) outside, core diameter pitch diameter	Ø 2 mm – 90 mm Ø 2 mm – 90 mm	1.5 μ m + 5·10 ⁻⁶ ·/ 2.5 μ m + 10·10 ⁻⁶ ·/ 4.5 μ m + 10·10 ⁻⁶ ·/	$\alpha \geq 27^\circ$ $\alpha < 27^\circ$	
	Thread ring gauges (internal thread) outside, core diameter pitch diameter	Ø 3 mm – 100 mm Ø 3 mm – 100 mm	1.5 μ m + 10·10 ⁻⁶ ·/ 2.5 μ m + 10·10 ⁻⁶ ·/ 4.5 μ m + 10·10 ⁻⁶ ·/	$\alpha \geq 27^\circ$ $\alpha < 27^\circ$	

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DM 7 0	Thread quantities internal			e.g. screw ring gauge	HLO
	Pitch	up to 10 mm	2 µm		
	Profile angle	up to 180°	(0.2 + 9/L) arcmin	Measurement on cast	
	Simple pitch diameter	Ø 4 mm – 200 mm	α = 30°: (9 – 14) µm	According to Euramet/CG-10/V.02, method 1a or 1b	
		Ø 4 mm – 200 mm	α = 55° 60°: (3.6 – 7) µm		
		Ø 4 mm – 200 mm	α = 90°: (3.1 – 6.2) µm		
	Pitch diameter	Ø 4 mm – 200 mm	α = 30°: (9 – 14) µm	According to RvA-I-4.05, Euramet/CG-10/V.02, method 2a, 2b or 3	
		Ø 4 mm – 200 mm	α = 55° 60°: (3.6 – 7) µm		
		Ø 4 mm – 200 mm	α = 90°: (3.1 – 6.2) µm		
DM 8 0	Combined instruments ⁽ⁱ⁾				HLO, OS
	1D-, 2D- en 3D-measuring machines	up to 20 m	$0.15 \mu\text{m} + 0.7 \cdot r + 1.0 \cdot 10^{-6} \cdot l$	Laser interferometer, Zerodur scales	
		up to 20 m	$0.15 \mu\text{m} + 0.7 \cdot r + 1.3 \cdot 10^{-6} \cdot l$	Laser interferometer, glass scales	
		up to 20 m	$0.15 \mu\text{m} + 0.7 \cdot r + 1.6 \cdot 10^{-6} \cdot l$	Laser interferometer, steel scales	
		up to 400 mm	$0.3 \mu\text{m} + 0.7 \cdot r + 2.3 \cdot 10^{-6} \cdot l$	Optical systems	
		up to 700 mm	$0.05 \mu\text{m} + 0.5 \cdot 10^{-6} \cdot l + S$	Using special gauge blocks	
	Deviation of nominal displacement	up to 20 m	$0.15 \mu\text{m} + 0.7 \cdot r + 1.0 \cdot 10^{-6} \cdot l$	Laser interferometer, Zerodur scales	
		up to 20 m	$0.15 \mu\text{m} + 0.7 \cdot r + 1.3 \cdot 10^{-6} \cdot l$	Laser interferometer, glass scales	

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		up to 20 m	$0.15 \mu\text{m} + 0.7 \cdot r + 1.6 \cdot 10^{-6} \cdot l$	Laser interferometer, steel scales	
		up to 400 mm	$0.3 \mu\text{m} + 0.7 \cdot r + 2.3 \cdot 10^{-6} \cdot l$	Optical systems	
		up to 700 mm	$0.05 \mu\text{m} + 0.5 \cdot 10^{-6} \cdot l + S$	Using special gauge blocks	
	Deviations transverse to the translation directions	up to 0.5 mm	$0.1 \mu\text{m} + 3 \cdot 10^{-6} \cdot l + 0.005 \cdot A$	A = measured deviation; measuring length up to 3000 mm	
	Rotational deviations around the translation direction				
		up to 400 arcsec	$0.5 \text{ arcsec} + 0.0035 \cdot H$	H = measured angle; only horizontal translations	
		up to 2000 $\mu\text{m/m}$	$2.5 \mu\text{m/m} + 0.0035 \cdot H$		
		up to 400 arcsec	$1.6 \text{ arcsec} + 0.007 \cdot H$	Up to 2000 mm translation; ceramic straight edge and 2 displacement sensors	
		up to 2000 $\mu\text{m/m}$	$8 \mu\text{m/m} + 0.007 \cdot H$		
	Other rotational deviations	up to 7200 arcsec	$0.5 \text{ arcsec} + 0.0016 \cdot H$	H = measured angle, translation up to 20 m	
	Translation deviation along a rotational axis		$0.025 \mu\text{m}$		
	Parallelism of a rotation and a translation	translation up to 500 mm	1 arcsec		
	Squareness of 2 translations	up to 500 x 500 mm ²	1 arcsec	Ceramic square and displacement sensor	
		up to 500 x 500 mm ³	0.6 arcsec	Ceramic square and measurement system op measuring machine; reversal method	
	Squareness of a rotation and a translation	translation up to 150 mm	$0.07 \mu\text{m}$		
		translation up to 300 mm	$0.7 \mu\text{m}$		

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DM 8 0	Coordinate Measuring Machines X, Y and Z axis			using calibration fixture (stepgauge) measuring (reference).	HLO, OS
		max. 1000 mm	$0.95 \mu\text{m} + 0.5 \cdot 10^{-6} \cdot l$	Measurement uncertainty steel reference and glass ruler.	
		max. 2000 mm	$1.0 \mu\text{m} + 0.8 \cdot 10^{-6} \cdot l$	Measurement uncertainty steel reference and glass ruler.	
		max. 100 mm	$0.6 \mu\text{m}$	Measurement uncertainty steel reference and zerodur ruler.	
		max. 500 mm	$1.2 \mu\text{m} + 0.65 \cdot 10^{-6} \cdot l$	Measurement uncertainty steel reference and zerodur ruler.	
DM 8 0	Focus variation measuring machine	0 – 360 mm	$0.5 \mu\text{m} + 0.5 \cdot 10^{-6} \cdot l$		OS
DM 8 1	Tools, products				HLO
	Surface profiles	up to 6 x 120 mm ²	$0.05 \mu\text{m} + 0.007 \cdot A$	A = measured profile height	
	Roughness	Ra: up to 10 μm	$0.015 \mu\text{m} + 0.045 \cdot A$	A = measured Ra-value	
		Rz: up to 15 μm	$0.025 \mu\text{m} + 0.07 \cdot A$	A = measured Rz-value	
		Rt, Rmax: up to 15 μm	$0.025 \mu\text{m} + 0.07 \cdot A$	A = measured Rt, Rmax-value	
	Straightness	up to 6 x 120 mm ²	$0.05 \mu\text{m} + 0.007 \cdot A$	A = measured profile height	
		up to 100 mm	$0.25 \mu\text{m}$		
		100 mm – 300 mm	$0.6 \mu\text{m}$		

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		300 mm – 500 mm	0.7 µm		
		up to 1000 mm	$1.3 \mu\text{m} + 2 \cdot 10^{-6} \cdot l$		
		up to 10 m	$0.5 \mu\text{m} + 0.5 \cdot 10^{-6} \cdot l$	-	HLO, OS
	Roundness external	up to Ø 500 mm	$0.05 \mu\text{m} + 0.01 \cdot A$	A = measured roundness	HLO
	Roundness internal	Ø 0.7 mm – 500 mm	$0.05 \mu\text{m} + 0.01 \cdot A$	A = measured roundness	
	Cylindricity	up to Ø 500 and up to height 100 mm	$0.5 \mu\text{m} + 1.1 \cdot 10^{-6} \cdot H + 0.01 \cdot A$	A = measured cylindricity H = height cylinder	
		up to Ø 500 and up to height 500 mm	$1.1 \mu\text{m} + 2 \cdot 10^{-6} \cdot H + 0.01 \cdot A$		
	Coaxiality and concentricity	up to Ø 500 and up to height 500 mm	$0.1 \mu\text{m} + 0.02 \cdot A$	A = measured coaxiality / concentricity	
	Flatness	up to Ø 60 mm	0.04 µm		
		up to Ø 145 mm	0.06 µm		
		up to Ø 300 mm	0.6 µm		
		up to 6 x 10 m ²	$0.2 \mu\text{m} + 1.5 \cdot 10^{-6} \cdot l$		HLO, OS
	Angles between sides or planes	up to 180°	$(0.2 + 9/A) \text{ arcmin}$	A = leg length; leg length up to 200 mm	HLO
	Diameter external	up to Ø 300 mm	$0.8 \mu\text{m} + 2.5 \cdot 10^{-6} \cdot l$		
		up to Ø 100 mm	$0.5 \mu\text{m} + (1 + 6 \cdot \Delta T) \cdot 10^{-6} \cdot l$		HLO, OS
		Ø 300 mm – 500 mm	$1.2 \mu\text{m} + 6 \cdot 10^{-6} \cdot l$		HLO
	Diameter internal	Ø 1 mm – 4 mm	$1.2 \mu\text{m} + 6 \cdot 10^{-6} \cdot l$		
		Ø 4 mm – 200 mm	$1.0 \mu\text{m} + 2 \cdot 10^{-6} \cdot l$		
		Ø 200 mm – 500 mm	$1.2 \mu\text{m} + 6 \cdot 10^{-6} \cdot l$		
DM 8 1	Tools, products	Distance of 2 parallel planes			HLO
	External	up to 300 mm	$0.8 \mu\text{m} + 2.5 \cdot 10^{-6} \cdot l$		

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		up to 100 mm	$0.5 \mu\text{m} + (1 + 6 \cdot \Delta T) \cdot 10^{-6} \cdot l$		HLO, OS
		300 mm – 3000 mm	$0.4 \mu\text{m} + 2 \cdot 10^{-6} \cdot l$		HLO
	Internal	Ø 1 mm – 4 mm	$1.2 \mu\text{m} + 6 \cdot 10^{-6} \cdot l$		
		Ø 4 mm – 200 mm	$1.0 \mu\text{m} + 2 \cdot 10^{-6} \cdot l$		
		Ø 200 mm – 500 mm	$1.2 \mu\text{m} + 6 \cdot 10^{-6} \cdot l$		
DM 8 1	Tools, products	Thread external			HLO
	Pitch	up to 10 mm	2 μm		
	Profile angle	up to 180°	$(0.2 + 9/L)$ arcmin		
	Simple pitch diameter	Ø 1 mm – 300 mm	$\alpha = 30^\circ$: $(6.0 - 7.5) \mu\text{m}$	According to Euramet/CG-10 V 2.0, method 1a or 1b	
		Ø 1 mm – 300 mm	$\alpha = 55^\circ 60^\circ$: $(3.2 - 4.1) \mu\text{m}$		
		Ø 1 mm – 300 mm	$\alpha = 90^\circ$: $(2.6 - 3.4) \mu\text{m}$		
	Pitch diameter	Ø 1 mm – 300 mm	$\alpha = 30^\circ$: $(6.0 - 7.5) \mu\text{m}$	According to Euramet/CG-10 V 2.0, method 2a, 2b or 3	
		Ø 1 mm – 300 mm	$\alpha = 55^\circ 60^\circ$: $(3.2 - 4.1) \mu\text{m}$		
		Ø 1 mm – 300 mm	$\alpha = 90^\circ$: $(2.6 - 3.4) \mu\text{m}$		
	Simple pitch diameter	Ø 4 mm – 100 mm	$\alpha = 30^\circ$: $(9 - 14) \mu\text{m}$	According to Euramet/CG-10 V 2.0, method 1a or 1b	
		Ø 4 mm – 100 mm	$\alpha = 55^\circ 60^\circ$: $(3.6 - 7) \mu\text{m}$		
		Ø 4 mm – 100 mm	$\alpha = 90^\circ$: $(3.1 - 6) \mu\text{m}$		
	Pitch diameter	Ø 4 mm – 100 mm	$\alpha = 30^\circ$: $(9 - 14) \mu\text{m}$	According to Euramet/CG-10 V 2.0, method 2a, 2b or 3	
		Ø 4 mm – 100 mm	$\alpha = 55^\circ 60^\circ$: $(3.6 - 7) \mu\text{m}$		
		Ø 4 mm – 100 mm	$\alpha = 90^\circ$: $(3.1 - 6) \mu\text{m}$		

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DM 9 0	Angle measurement				HLO
	Angle gauge block	0° – 180°	2 arcsec		
	Cylindrical square	up to Ø 300 mm, up to height 500 mm	$0.9 \mu\text{m} + 2.1 \cdot 10^{-6} \cdot l + 0.02 \cdot A$	A = measured squareness	
	Square	up to 500 mm leg length	$0.7 \mu\text{m} + 2.2 \cdot 10^{-6} \cdot l + 0.02 \cdot A$	A = measured squareness	
	Angle plate	90°	0.5 arcsec		
	Autocollimator	up to 12.5 mm/m	$0.5 \mu\text{m/m} + 0.001 \cdot H + 0.7 \cdot r$		
		up to 2600 arcsec	$0.1 \text{ arcsec} + 0.001 \cdot H + 0.7 \cdot r$		
	Spirit level	up to 12.5 mm/m	$0.5 \mu\text{m/m} + 0.001 \cdot H + 0.7 \cdot r$		
		up to 2600 arcsec	$0.1 \text{ arcsec} + 0.001 \cdot H + 0.7 \cdot r$		
DM 9 1	Angle measurement				HLO
	Leveling instruments		0.01 mm/m		
DM 9 2	Angle measurement				HLO
	Polygon	up to 360°	0.5 arcsec		
	Pentagon prism	90°	0.5 arcsec		
DM 9 3	Angle measurement				HLO, OS
	Deviation of the nominal rotation	360°	$0.9 \text{ arcsec} + 0.7 \cdot r$	f.i. rotary heads and rotary table	
DM 9 4	Angle measurement				HLO, OS
	Clinometer	up to 360°	5 arcsec		