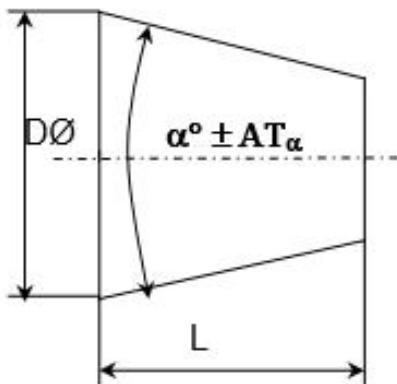


1. Tolerances for cones in conical connections:

The following specifications apply to all cones defined in the drawing by the term "cone" and/or taper (e.g. cone 1:10):

Cone angle tolerance:



Kegellänge L	Kegelwinkeltoleranz AT α	
	µrad	Min-Sek.
10 to 16	400	1'22"
16 to 25	315	1'05"
25 to 40	250	52"
40 to 63	200	41"

2038368	Change back cone angle tolerances like previously in RON103, remove section 6 (Surface texture Profile)					RON110_en_2038368.doc
2036896	New RON based on RON 103. ISO 21920-3:2021(E) added.					RON_en_2036896.doc
Edition	Description of change					Document
Prepared on 2023-10-31 QSC/EDJ <i>Johannes Edelmueller</i> <small>Johannes Edelmueller (23. Mai 2024 01:56 GMT+2)</small>	Checked on 23. Mai 2024	Checked on 23. Mai 2024	Checked on 23. Mai 2024	Approved on 23. Mai 2024	replaces RON 110_en_2036896	
by QE/POEM <i>Christian Dexler</i> 2024 05 16	by QS/DX <i>Christian Dexler</i> <small>Christian Dexler (23. Mai 2024 08:03 GMT+2)</small>	by PM/WOLF <i>Markus Wolfgruber</i> <small>Markus Wolfgruber (23. Mai 2024 15:26 GMT+2)</small>	by SQ/HAMED <i>Markus Hamedinger</i> <small>Markus Hamedinger (23. Mai 2024 15:26 GMT+2)</small>	by PT/WIN <i>Richard Winkhofer</i> <small>Richard Winkhofer (23. Mai 2024 15:27 GMT+2)</small>	RON 110 edition 2038368	

2. Roundness tolerance of cross-section and straightness tolerance of surface lines:

Cone diameter D	Roundness	straightness
10 to 18	4µm	4µm
18 to 30	5µm	5µm
30 to 50	6µm	6µm

Cone diameter D is the largest diameter of the respective cone

Larger deviations for the cone angle tolerance may be permissible in special cases (e.g. due to the easily deformed hub design on magnet wheels). These cones are indicated in the drawing by adding the suffix AT 7 to the cone specification (e.g. cone 1:7,5 AT 7).

3. Roundness is to be tested using electronic instrumentation (3D measuring machine, roundness test machine, etc.).

The following filters are to be applied:

Diameter of workpiece or bore [mm]	Threshold wave limit [waves per rotation]	Test points/circumference
bis 25	15	>105
>25 bis 80	50	>350
>80 bis 250	150	>1050
>250	500	>3500

4. Straightness/Flatness

This is to be tested using a 3D machine applying the following (lc-) filter

Threshold wavelength λ_c	Test points per mm	Step rate [mm]
0.80	>8.75	0.1143

5. Cylinders

Measured using radial section method

Bore/bolt length	Measuring levels*)	Comment
0 to 50	3 (start/end/middle)	*) minimum quantity of roundness measurements to be made over the full length of the cylinder. In addition, at least one extra straightness measurement is to be performed.
>50 to 150	5 distributed evenly	
>100 to 300	7 distributed evenly	



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