

# Datenblatt | Data sheet

## Data sheet Dimensional shape accuracy and roughness DIN 5402-1:2014-05

### Cylindrical rollers

Güteklasse (Grade)	$D_w$ mm		$V_{dwp}^a$ $\mu\text{m}$	$\Delta R_w^a$ $\mu\text{m}$	$V_{Dwmp}^b$ $\mu\text{m}$	$V_{Dwl}^{a,c}$ $\mu\text{m}$	$V_{dwb}^a$ $\mu\text{m}$	$S_T$ $\mu\text{m}$	$I_{GDw}^c$ $\mu\text{m}$	Sortenbereich Mittlere Abmaße <sup>a</sup> $\mu\text{m}$			$R_a$ Mantel- fläche $\mu\text{m}$
	über	bis	max.	max.	max.	max.	max.						max.
G2 <sup>d</sup>	-	26	0,8	1	0,8	2	-	-	1	-8 bis -1	0	+1 bis +6	0,16
	26	40	1,2	1,2	1,2	3	-	-	1,5	-9 bis -1,5	0	+1,5 bis +6	0,2
	40	75	2	2	2	(3)	3	1	1 (1,5)	-16 bis -1	0	+1 bis +16	0,32
	75	120	2,5	2,5	2,5	(5)	5	1,5	1,5 (2,5)	-18 bis -1,5	0	+1,5 bis +18	0,32
G1 <sup>e</sup>	-	26	0,5	0,5	0,5	1,5	-	-	1	-8 bis -1	0	+1 bis +6	0,1
	26	40	1	0,8	1,2	2	-	-	1,5	-9 bis -1,5	0	+1,5 bis +6	0,16
	40	75	1,5	1,2	1,5	(3)	3	1	1 (1,5)	-16 bis -1	0	+1 bis +16	0,25

<sup>a</sup> The values apply in the center of the cylindrical roller.  
<sup>b</sup> Measured in two radial planes in the cylindrical center section symmetrical to the roll center.  
<sup>c</sup> The values in brackets are permissible if rigid sorting according to A.3 is used for rolls with  $D_T$  above 40 mm.  
<sup>d</sup> GN is not specified in the designation - G2  
<sup>e</sup> For grade G1 with  $D_w$  up to 26 mm, the grade classification can also be made with the half grade interval values  $I_{GDw}$ .

#### Nominal diameter of the roller $D_w$

Zur allgemeinen Bezeichnung eines Rollendurchmessers verwendeter Durchmesserwert

#### Nominal length of the roller $L_w$

Length value used for the general designation of a roller length

#### Sorting

Distance of the mean roll diameter or the mean roll length of a cylindrical roll from the nominal dimension, rounded to a multiple of the grade interval

#### Single roller diameter $D_{ws}$

Distance between two planes parallel to the roll axis which are in contact with the roll shell

#### Mean diameter in a radial plane $D_{wmp}$

Arithmetic mean of largest and smallest single diameter  $D_{ws}$  in a radial plane

#### Mittlerer Rollendurchmesser einer Durchmessersorte $D_{wml}$

Arithmetic mean of the largest and smallest mean roll diameter  $D_{wmp}$  in a diameter grade

#### Variation of the roll diameter in one plane $V_{Dwp}$

Difference between the largest and smallest single roll diameter  $D_{ws}$  in a radial plane

#### Variation of roll diameter in two radial planes $V_{Dwmp}$

Difference between mean roll diameters  $D_{wmp}$  measured in two radial planes in the cylindrical central part of the rolls, symmetrical to the roll center

#### Variation of mean roll diameters in a variety or variety subset $V_{Dwl}$ $V_{Dwb}$

Difference between the largest and smallest mean roll diameter, for  $V_{Dwl}$  within a variety, for  $V_{Dwb}$  within a variety subset.

#### Roundness $\Delta R_w$

Largest radial distance between the cylindrical roller surface and a concentrically arranged circumscribing circle, measured in the center of the cylindrical roller.

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**Grade interval roller diameter  $I_{GDW}$** 

Value into which the permissible dimension of the nominal diameter of the roll is evenly subdivided.

**Sort interval of roller length  $I_{GLW}$** 

Value into which the permissible dimension of the nominal length of the roll is evenly divided.

**Variation of roll lengths in a grade or grade subset  $V_{LWL}, V_{LWB}$** 

Difference between the largest and smallest average roll length, for  $V_{LWL}$  within a grade, for  $V_{LWB}$  within a grade subset

**Axial runout related to roller axis  $S_{Dw}$** 

Difference between largest and smallest axial distance between the roll face and a plane perpendicular to the roll axis, measured in the roll center, and a certain radial distance from the roll axis during one complete revolution of the roll.

**Sort tolerance  $S_T$** 

Bereich, in dem sich die Mitte von  $V_{DWB}$  bzw.  $V_{LWB}$  innerhalb einer Sorte bewegen darf  
Range in which the center of  $V_{DWB}$  or  $V_{LWB}$  is allowed to move within a grade

**Radial edge distance  $r_1$** 

Distance measured in an axial plane between the imaginary sharp edge of a roller and the intersection line between the surface of the edge rounding and the face of the roller

**Axial edge distance  $r_2$** 

Distance measured in an axial plane between the imaginary sharp edge of a roller and the intersection line between the surface of the edge rounding and the shell surface of the roller

**Single radial edge distance  $r_{1s}$** 

Distance measured in a single axial plane between the imaginary sharp edge of a roller and the intersection line between the surface of the edge rounding and the end face of the roller

**Single axial edge distance  $r_{2s}$** 

Distance measured in a single axial plane between the imaginary sharp edge of a roller and the intersection line between the surface of the edge rounding and the shell surface of the roller

**Largest single radial edge distance  $r_{1s \max}$** 

Largest permissible single radial edge distance of a roller

**Smallest single axial edge distance  $r_{2s \min}$** 

Smallest permissible single axial edge distance of a roll

**Largest single axial edge distance  $r_{2s \max}$** 

Largest permissible single axial edge distance of a roller

**Surface roughness  $R_a$** 

Deviations from a geometrically perfect surface, whereby deviations in shape and waviness are not taken into account.