

GRINDING TOOLS FOR THE BEARING INDUSTRY

The most important task of bearings is to ensure minimal friction in between machine parts rotating relative to each other, ensuring constant position of the shaft rotation axis and transfer of appropriate load between moving elements.

The quiet and trouble-free bearing operation has a direct impact on comfort and operational safety. Grinding processes of bearing elements play a key role in achieving these goals.

GRINDING OPERATIONS WITH ANDRE ABRASIVE TOOLS

GRINDING OF BEARING RINGS

- Ring face grinding
- Centerless grinding of the outer ring diameter grinding wheel
- Centerless grinding of the outer ring diameter regulating wheel
- Inner ring main race grinding
- Outer ring race grinding
- Inner ring bore grinding
- Inner ring auxiliary race grinding

GRINDING OF ROLLERS

- Roller face grinding
 - Cylindrical and spherical roller face grinding
 - Taper roller face grinding
- Roller body grinding



GRINDING OF BEARING RINGS

RING FACE GRINDING

During the operation, faces of the rings are machined to achieve desired surface parameters. This is done on double-disc grinders and the operation is often called parallel grinding.

Technical characteristics of ANDRE wheels dedicated for the ring face grinding allow for high surface quality and high productivity of the grinding process.

| TYPE 3601





3601 - D × T × H - ... - dwg. no

Dimensional range [mm]			
[D] [T] [H]			
585 ÷ 762	65 ÷ 76,2	10 ÷ 305	

Examples of implemented abrasive tools in industry [*]			
Туре	Dimensions [mm]	Technical characteristics	Speed [m/s]
3601	585 × 65 × 260	99A100K7BMOD1	28
3601	762 × 76,2 × 25,4	99A60IB549	30
3601	752 × 76,2 × 12,7	99A60IB549	30





CENTERLESS GRINDING OF THE OUTER RING DIAMETER - GRINDING WHEEL

In this machining process desired shape and dimensions of the ring diameter are achieved. The technical characteristics of ANDRE grinding wheels designed for this grinding operation ensure highly stable operation throughout the entire grinding process.

TYPE 1

TYPE 1





Dimensional range [mm]			
[D] [T] [H]			
500 ÷ 610	153 ÷ 508	304,8 ÷ 305	

	Examples of implemented abrasive tools in industry [*]			
Туре	Dimensions [mm]	Technical characteristics	Speed [m/s]	
1	500 × 500 × 305	53AY60J7B624	45	
1	500 × 400 × 305	96AY60L7BMOD	45	
1	510 × 153 × 305	53AY70M7VE01	35	

[*] For the full range of dimensions and available technical

characteristics ask the Sales Department.

CENTERLESS GRINDING OF THE OUTER RING DIAMETER - REGULATING WHEEL

The regulating wheel plays an important role in centerless grinding process. ANDRE offers a wide range of dimensions. The unique production technology of regulating wheels allows for their long life and excellent performance.





1 - D × T × H

Dimensional range [mm]		
[D] [T] [H]		
330 – 355	305 – 508	152,4 – 203,2

Examples of implemented abrasive tools in industry [*]			
Туре	Dimensions [mm]	Technical characteristics	Speed [m/s]
1	330 × 305 × 203,2	95A180X11B2PL	35
7	300 × 270 × 152,4 - P200F40G50	95A150X11B2PL	35
7	300 × 300 × 127 - P185F24G35	95A150X11B2PL	35

INNER RING MAIN RACE GRINDING

The main race grinding is one of the key grinding operations in the bearing production process.

Proposed technical characteristics of ANDRE grinding wheels guarantee high efficiency of the grinding process and obtaining required shape tolerances with desired surface roughness.

| TYPE 1 | TYPE 38



[*] For the full range of dimensions and available technical characteristics ask the Sales Department.

OUTER RING RACE GRINDING

TYPE 1

The main task of this key grinding process is to achieve desired shape, dimensions and surface roughness similar to the inner ring race grinding process. Proposed technical characteristics of ANDRE grinding wheels allow you to fully achieve the desired results.







Dimensional range [mm]			
[D] [T] [H]			
16 ÷ 145	16 ÷ 50	6 ÷ 32	

Examples of implemented abrasive tools in industry [*]			
Туре	Dimensions [mm]	Technical characteristics	Speed [m/s]
1	38 × 22 × 13	M3X100N5VE01N	63
1	55 × 20 × 20	M3X100K5VE01N	63
1	80 × 25 × 20	CRA100M5VE01	63



INNER RING BORE GRINDING

The grinding of the bore is carried out to achieve the shape and dimensions required in the production process as well as desired surface roughness. ANDRE offers a wide range of dimensions of grinding wheels for machining holes. Proposed technical characteristics ensure high machining quality and optimal tool life.

TYPE 1





C	Dimensional range [mm]	
[D] [T] [H]			
16 ÷ 145	16 ÷ 50	6 ÷ 32	

	Examples of implemented abrasive tools in industry [*]			
Туре	Dimensions [mm]	Technical characteristics	Speed [m/s]	
1	16 × 22 × 6	CRA100M5VE01	63	
1	25 × 20 × 13	M3X100N5VE01N	63	
1	46 × 28 × 20	M3X100K5VE01N	63	

[*] For the full range of dimensions and available technical characteristics ask the Sales Department.

INNER RING AUXILIARY RACE GRINDING

In this grinding process a certain dimensional tolerance and relevant geometry can be easily achieved with ANDRE grinding wheels. We offer a wide range of grinding wheels designed for auxiliary race grinding.

TYPE 1M





1M - D × T × H

Dimensional range [mm]			
[D] [T] [H]			
120 ÷ 350	10 ÷ 20	51,7 ÷ 127	

Examples of implemented abrasive tools in industry [*]			
Туре	Dimensions [mm]	Technical characteristics	Speed [m/s]
1M	120 × 10 × 57,1	59A1202K7VE01	63
1M	148 × 10 × 57,1	59A1202K7VE01	63
1M	210 × 10 × 76,2	59A1202K7VE01	63

GRINDING OF ROLLERS

ROLLER FACE GRINDING

In this grinding operation, the roller face surface is machined to achieved desired parameters. Depending on the roller shape the process is done with type 36 grinding wheel or with the use of grinding wheel type 1801, with spherical working zone, or with type 1J (1YJ) wheel.

ANDRE offers a wide range of types and dimensions of grinding wheels for this process.

▶ CYLINDRICAL AND SPHERICAL ROLLER FACE GRINDING

| TYPE 36





- 36	- 1	U	×	L	×	н

Dimensions [mm]			
[D]	[T]	[H]	
600	75	305	

Examples of implemented abrasive tools in industry [*]			
Туре	Dimensions [mm]	Technical characteristics	Speed [m/s]
36	600 ÷ 75 ÷ 305	95A 80N7 B312 MOD	35

[*] For the full range of dimensions and available technical characteristics ask the Sales Department.

► TAPER ROLLER FACE GRINDING

TYPE 1801





1801 - D × T - R

Dimensional range [mm]			
[D]	[T]		
76,6 ÷ 152,8	101,6		

Examples of implemented abrasive tools in industry [*]				
Тур	Dimensions [mm]	Technical characteristics	Speed [m/s]	
1801	102,1 × 101,6	99A240N B	50	
1801	152,8 × 101,6	99A240N B	50	



| TYPE 1YJ | TYPE 1J





Dimensional range [mm]				
[D]	[T]	[H]		
455	110 ÷ 205	228,6		

Examples of implemented abrasive tools in industry [*]				
Туре	Dimensions [mm]	Technical characteristics	Speed [m/s]	
IYJ	455 × 150 × 228,6	99A90KV/120KV/220KB	50	
13	455 × 130 × 228,6	99A 80J7VE01	50	

[*] For the full range of dimensions and available technical characteristics ask the Sales Department.

ROLLER BODY GRINDING

In case of cylindrical and tapered rollers, the roller body grinding process involves centerless grinding machines. ANDRE offers a wide range of grinding wheels with properly selected technical characteristics for these operations.

TYPE 1





Dimensional range [mm]			
[D]	[T]	[H]	
508 ÷ 600	125 ÷ 205	304,8 ÷ 305	

Examples of implemented abrasive tools in industry [*]				
Тур	Dimensions [mm]	Technical characteristics	Speed [m/s]	
1	600 × 125 × 305	96A 46/5407 BMODB	48	
1	600 × 125 × 305	53AY46O7BMODB	48	
1	510 × 205 × 305	96AY120P7B MOD	50	
1	508 × 152,4 × 304,8	96A60Z11B2PL	45	



ANDRE OFFERS READY SOLUTIONS FOR BEARING MANUFACTURERS. CAREFULLY SELECTED CHARACTERISTICS OF WHEELS BRING THE EXPECTED RESULTS AT INDIVIDUAL STAGES OF PRODUCTION AT MANY LEADING MANUFACTURERS.

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