

NTN[®]

ROX

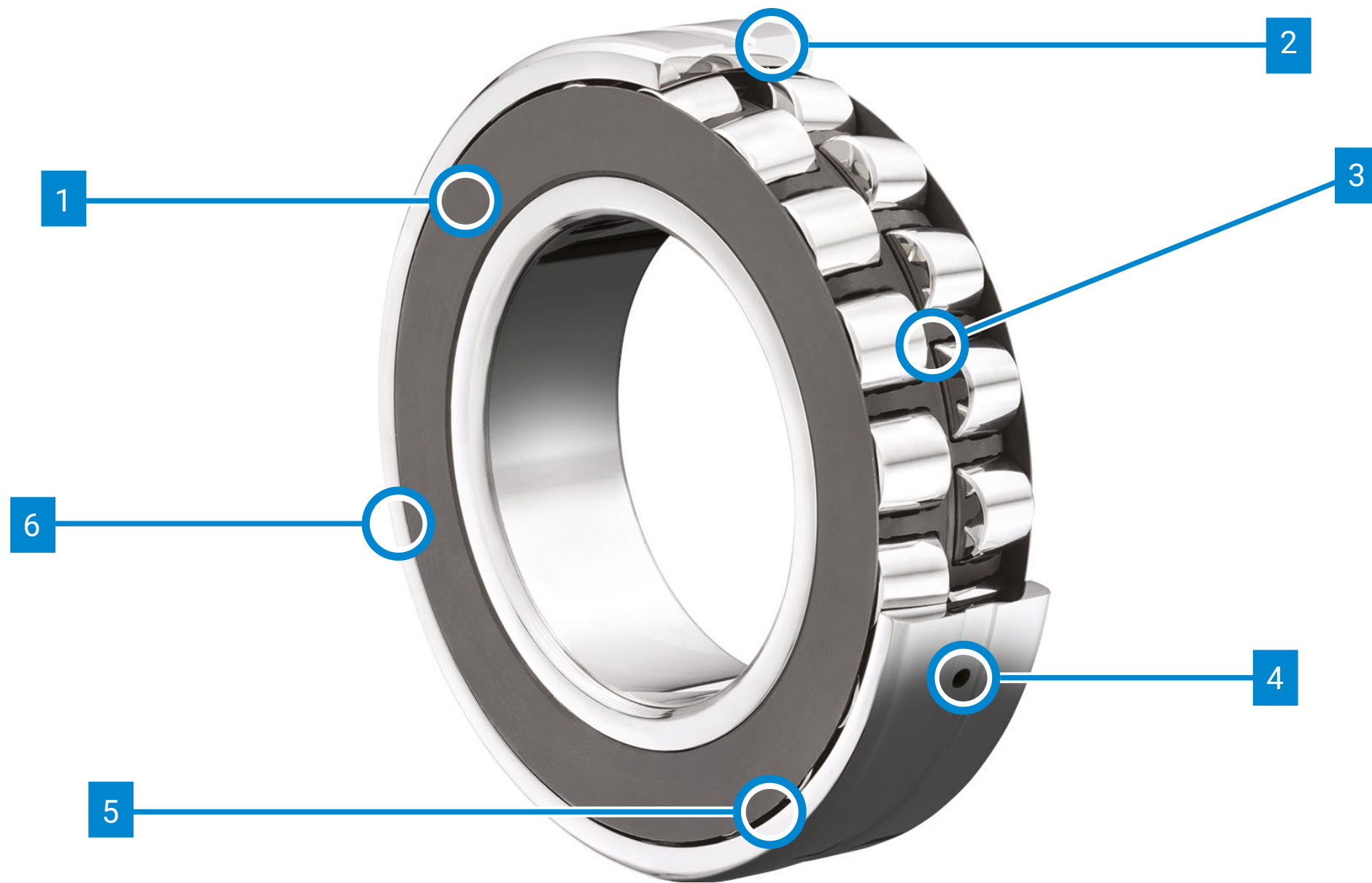
BORN FOR THE DUST.



CAT. A-2604-I

ROX

BORN FOR THE DUST.



The Better Option

Less downtime.
More profitability.

ROX is a new-generation spherical roller bearing, developed for conveyors in mining and aggregate industries. A unique solution on the market, ROX is the only spherical roller bearing equipped with metal shields welded to the cage, a patented technology that durably protects the inside of the bearing against dust and debris.

Product Features & Benefits

- 1 Nitrided steel shields affixed to the cage on both sides of the bearing keep contamination out and retain grease for longer bearing life
- 2 Standard ISO dimensions with offerings in both straight and taper bore, as well as standard and C3 clearance, for easy interchangeability with standard 22200 and 22300 series bearings and placement within SAF/SNC 200, 300, 500 & 600 series housings
- 3 ROX design provides superior performance in demanding applications
- 4 Lubrication hole and groove on outer diameter for easy lubrication
- 5 Easy-to-check internal clearance requires no special equipment
- 6 Similar misalignment capability as standard open spherical roller bearings

More than 2x longer bearing life

ROX is the world's only spherical roller bearing with dual metallic shields. It's designed to thrive in dusty environments, for the toughest quarry conditions like yours.

Stand strong where others fail



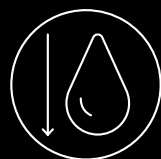
Why choose ROX?



More than 2x longer bearing life



100% compatibility with standard premium bearings (ISO)



Reduced re-lubrication frequency by more than 50%*
*proven by our customers



How ROX brings you peace of mind

- Dust and debris blocked by **metallic shields (ZZ)**
- Shock resistance improved **by nitrided cage**
- Minimal friction due to **no contact between shields and outer ring**
- **Fits inside SAF/SNC 200, 300, 500 & 600** series housings
- **Clearance checking** using feeler gauges
- Misalignment handled **up to 2°**
- Operates from **-40°C to +200°C (-40°F to 400°F)**

Example of quarry results

Annual production: 300,000 tons
Turnover: \$5.2 million/year
Value per ton: \$17

Designed for the toughest environments, it keeps your equipment running and your team focused on what matters.

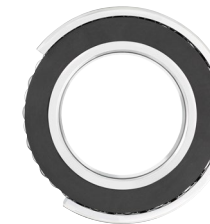
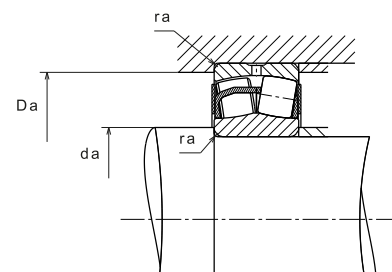
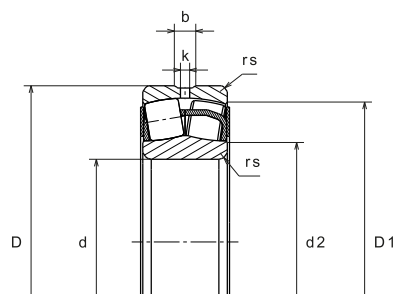
Setup	Maintenance/year	Bearings/year	Maintenance (in hours)	Production gain (in hours)	Turnover gain (in USD)
Standard	2	40	80	1,760	\$5.2 million
ROX	1	20	40 (-5 days)	1,800 (+2.3%)	\$5.3 million (+\$100,000)

Applications

- All types of conveyors
- Quarry operations
- Cement plants
- Heavy-duty industrial environments



ROX Range



Overall Dimensions			Designations		Fatigue Load Limit	Load Capacities		Calculation Factors				Thermal Reference Speed	Limiting Speed	Mass Cylindrical Bore	Dimensions					Fitting Dimensions			
d	D	B	Cylindrical Bore	Tapered Bore	C _u	Dynamic C	Static C ₀	e	Y ₁	Y ₂	Y ₀	rpm	kg	Number of Lubrication Holes on the Outer Ring	b	k	r _i min	d ₂	D ₁	d _a min	D _a max	r _s max	
mm					kN															mm			
30	62	20	22206EAW33ZZ	22206EAKW33ZZ	7.9	75.7	64.5	0.31	2.15	3.20	2.10	11,000	14,000	0.272	3	4.40	2.0	1.0	37.5	54.3	35.6	56.4	1.0
35	72	23	22207EAW33ZZ	22207EAKW33ZZ	11.2	100.0	92.0	0.31	2.21	3.29	2.16	9,500	12,000	0.420	3	4.90	2.0	1.1	45.1	63.0	42.0	65.0	1.0
40	80	23	22208EAW33ZZ	22208EAKW33ZZ	12.8	116.0	105.0	0.27	2.47	3.68	2.41	8,200	11,000	0.540	3	5.40	2.5	1.1	50.2	70.8	47.0	73.0	1.0
40	90	33	22308EAW33ZZ*	22308EAKW33ZZ*	18.5	169.0	152.0	0.36	1.87	2.79	1.83	5,800	7,400	1.006	3	5.90	3.0	1.5	52.5	77.0	49.0	81.0	1.5
45	85	23	22209EAW33ZZ	22209EAKW33ZZ	13.8	121.0	113.0	0.26	2.64	3.94	2.58	7,400	9,800	0.590	3	5.80	2.5	1.1	54.9	75.6	52.0	78.0	1.0
45	100	36	22309EAW33ZZ	22309EAKW33ZZ	22.8	206.0	187.0	0.36	1.90	2.83	1.86	5,300	6,700	1.352	3	6.40	3.0	1.5	58.0	85.8	54.0	91.0	1.5
50	90	23	22210EAW33ZZ	22210EAKW33ZZ	15.1	130.0	124.0	0.24	2.84	4.23	2.78	6,700	9,100	0.630	3	5.80	2.5	1.1	59.5	80.7	57.0	83.0	1.0
50	110	40	22310EAW33ZZ	22310EAKW33ZZ	28.3	250.0	232.0	0.36	1.87	2.79	1.83	4,900	6,100	1.810	3	7.00	3.5	2.0	63.8	93.2	61.0	99.0	2.0
55	100	25	22211EAW33ZZ	22211EAKW33ZZ	18.0	155.0	148.0	0.23	2.95	4.39	2.89	6,100	8,200	0.850	3	6.40	3.0	1.5	66.0	89.7	64.0	91.0	1.5
55	120	43	22311EAW33ZZ	22311EAKW33ZZ	33.4	296.0	274.0	0.36	1.87	2.79	1.83	4,600	5,600	2.290	3	7.80	3.5	2.0	68.7	102.9	66.0	109.0	2.0
60	110	28	22212EAW33ZZ	22212EAKW33ZZ	22.1	187.0	181.0	0.24	2.84	4.23	2.78	5,600	7,500	1.176	3	6.90	3.0	1.5	71.9	98.5	69.0	101.0	1.5
60	130	46	22312EAW33ZZ	22312EAKW33ZZ	38.9	340.0	319.0	0.35	1.95	2.90	1.91	4,300	5,100	2.804	3	8.70	4.0	2.1	75.3	111.9	72.0	118.0	2.0
65	120	31	22213EAW33ZZ	22213EAKW33ZZ	27.3	226.0	224.0	0.24	2.79	4.15	2.73	5,300	6,900	1.570	3	7.80	3.5	1.5	78.2	107.0	74.0	111.0	1.5
65	140	48	22313EAW33ZZ*	22313EAKW33ZZ*	41.2	369.0	343.0	0.33	2.06	3.06	2.01	4,000	4,800	3.413	3	9.20	4.0	2.1	81.3	121.2	77.0	128.0	2.0
70	125	31	22214EAW33ZZ	22214EAKW33ZZ	29.3	235.0	240.0	0.22	3.01	4.48	2.94	4,900	6,500	1.586	3	7.40	3.5	1.5	84.1	112.7	79.0	116.0	1.5
70	150	51	22314EAW33ZZ	22314EAKW33ZZ	46.7	420.0	396.0	0.34	2.00	2.98	1.96	3,800	4,500	4.176	3	10.40	5.0	2.1	86.0	128.7	82.0	138.0	2.0
75	130	31	22215EAW33ZZ	22215EAKW33ZZ	29.9	244.0	249.0	0.22	3.13	4.67	3.06	4,600	6,200	1.720	3	7.40	3.5	1.5	88.4	117.8	84.0	121.0	1.5
75	160	55	22315EAW33ZZ*	22315EAKW33ZZ*	53.9	491.0	467.0	0.34	2.00	2.98	1.96	3,600	4,200	5.083	3	10.50	5.0	2.1	91.9	138.3	87.0	148.0	2.0
80	140	33	22216EAW33ZZ	22216EAKW33ZZ	33.8	278.0	287.0	0.22	3.14	4.67	3.07	4,300	5,800	2.152	3	7.87	3.5	2.0	94.0	127.0	91.0	129.0	2.0
80	170	58	22316EAW33ZZ*	22316EAKW33ZZ*	59.1	541.0	522.0	0.34	2.00	2.98	1.96	3,400	3,900	6.030	3	10.50	5.0	2.1	98.6	147.4	92.0	158.0	2.0
85	150	36	22217EAW33ZZ	22217EAKW33ZZ	38.0	324.0	330.0	0.22	3.07	4.58	3.01	4,100	5,400	2.640	3	7.90	3.5	2.0	100.7	136.5	96.0	139.0	2.0
85	180	60	22317EAW33ZZ*	22317EAKW33ZZ*	67.0	599.0	604.0	0.32	2.09	3.11	2.04	3,200	3,600	7.061	3	11.00	5.0	3.0	107.9	156.7	99.0	166.0	2.5
90	160	40	22218EAW33ZZ	22218EAKW33ZZ	45.2	384.0	398.0	0.23	2.90	4.31	2.83	3,900	5,100	3.390	3	10.20	4.5	2.0	105.3	143.2	101.0	149.0	2.0
90	190	64	22318EAW33ZZ*	22318EAKW33ZZ*	71.4	668.0	652.0	0.33	2.06	3.07	2.01	3,000	3,500	8.285	3	11.60	5.0	3.0	110.1	165.1	104.0	176.0	2.5
95	170	43	22219EAW33ZZ*	22219EAKW33ZZ*	46.5	416.0	417.0	0.23	2.95	4.40	2.89	3,800	4,800	3.950	3	9.90	4.5	2.1	110.8	152.8	107.0	158.0	2.0
100	180	46	22220EAW33ZZ	22220EAKW33ZZ	54.3	472.0	495.0	0.24	2.84	4.23	2.78	3,600	4,600	4.989	3	11.20	5.0	2.1	118.2	160.8	112.0	168.0	2.0
110	200	53	22222EAW33ZZ	22222EAKW33ZZ	68.4	602.0	643.0	0.25	2.69	4.00	2.63	3,300	4,100	6.929	3	12.20	6.0	2.1	130.1	178.4	122.0	188.0	2.0
120	215	58	22224EAW33ZZ	22224EAKW33ZZ	78.2	688.0	753.0	0.25	2.74	4.08	2.68	3,000	3,800	8.693	3	12.20	6.0	2.1	141.9	192.3	132.0	203.0	2.0
130	230	64	22226EAW33ZZ	22226EAKW33ZZ	91.4	808.0	898.0	0.25	2.69	4.00	2.63	2,800	3,600	10.771	3	13.20	6.0	3.0	151.4	205.4	144.0	216.0	2.5
140	250	68	22228EAW33ZZ	22228EAKW33ZZ	100.0	867.0	1,010.0	0.25	2.74	4.08	2.68	2,500	3,300	14.200	3	14.20	7.0	3.0	163.9	223.9	154.0	236.0	2.5

Bearings available with cylindrical and tapered bores. Bearings with tapered bores are generally fitted with adapter or withdrawal sleeves.

All types of clearances are available from stock or on request.

Special clearances and special precisions are available on request.

* Soon available

ROX Bearing Adapter Part Numbers

Bore	Bearing	Adapter
25mm	22206EAKW33ZZ	H306
1 1/14		SNW06X15/16
1 15/16		SNW06X1
30mm	22207EAKW33ZZ	H308
1 11/16		SNW07X1.1/16
1 1/8		SNW07X1.1/8
1 3/16		SNW07X1.3/16
1 1/4		SNW08X1.1/4
35mm	22208EAKW33ZZ	H308
1 1/14		SNW08X1.1/4
1 15/16		SNW08X1.15/16
1 3/8		SNW08X1.3/8
40mm	22209EAKW33ZZ	H309
1 3/8		SNW09X1.3/8
1 7/16		SNW09X1.7/16
1 1/2		SNW09X1.1/2
45mm		22210EAKW33ZZ
1 5/8	SNW10X1.5/8	
1 1/16	SMW10X1.1/16	
1 3/4	SNW10X1.3/4	
50mm	22211EAKW33ZZ	H311
1 3/4		SNW11X1.3/4
1 7/8		SNW11X1.7/8
1 15/16		SNW11X1.15/16
2		SNW11X2
55mm	22212EAKW33CZZ	H312
2		SNW12X2
2 1/8		SNW12X2.1/16
60mm	22213EAKW33ZZ	H313
2		SNW13X2
2 1/8		SNW13X2.1/8
2 3/16		SNW13X2.3/16
2 1/4		SMW13X2.1/4
2 5/16		SNW13X2.5/16

Bore	Bearing	Adapter
65mm	22215EAKW33ZZ	H315
2 3/8		SNW15X2.3/8
2 7/16		SNW15X2.7/16
2 1/2		SNW15X2.1/2
70mm	22216EAKW33ZZ	H316
3 5/6		SNW16X2.11/16
2 3/4		SNW16X2.3/4
75mm		22217EAKW33ZZ
2 15/16	SNW17X2.15/16	
3	SNW17X3	
80mm	22218EAKW33ZZ	H318
3 1/8		SNW18X3.1/8
3 3/16		SNW18X3.3/6
3 1/4		SMW18X3.1/4
85mm	22219EAKW33ZZ	H319
3 1/5		SNW19X3.3/16
3 1/4		SNW19X3.1/4
3 3/8		SMW18X3.3/8
90mm	22220EAKW33ZZ	H320
3 7/16		SNW20X3.7/16
3 1/2		SNW20X3.1/2
100mm	22222EAKW33ZZ	H322
3 7/8		SNW22X3.7/8
3 15/16		SNW22X3.15/16
4		SNW22X4
110mm	22224EAKW33ZZ	H3124
4 1/8		SNW24X4.1/8
4 3/16		SNW24X4.3/16
4 1/4		SNW24X4.1/4
115mm	22226EAKW33ZZ	H3126
4 3/8		SNW26X4.3/8
4 7/16		SNW26X4.7/16
4 1/2		SNW26X4.1/2
125mm		22228EAKW33ZZ
4 7/8	SNW28X4.7/8	
4 15/16	SNW28X4.15/16	
5	SNW28X5	

Bore	Bearing	Adapter
35mm	22308EAKW33ZZ	H2308
1 1/14		SNW108X1.1/4
1 15/16		SNW108X1.15/16
40mm	22309EAKW33ZZ	H2309
1 7/16		SNW109X1.7/16
1 1/2		SNW109X1.1/2
45mm	22310EAKW33ZZ	H2310
1 5/8		SNW110X1.5/8
1 1/16		SMW110X1.1/16
1 3/4		SNW110X1.3/4
50mm	22311EAKW33ZZ	H2311
1 7/8		SNW111X1.7/8
1 15/16		SNW111X1.15/16
2		SNW111X2
55mm		22312EAKW33CZZ
2 1/8	SNW112X2.1/8	
60mm	22313EAKW33ZZ	H2313
2 3/16		SNW113X2.3/16
2 1/4		SMW113X2.1/4
2 3/8		SMW113X2.3/8
65mm	22315EAKW33ZZ	H2315
2 3/8		SNW115X2.3/8
2 7/16		SNW115X2.7/16
2 1/2		SNW115X2.1/2
70mm	22316EAKW33ZZ	H316
3 5/6		SNW116X2.11/16
75mm	22317EAKW33ZZ	H2317
2 3/4		SNW116X2.3/4
2 15/16		SNW117X2.15/16
80mm	22318EAKW33ZZ	H2318
3		SNW117X3
3 1/8		SNW118X3.1/8
3 3/16		SNW118X3.3/6
3 1/4		SMW118X3.1/4



Adapters sold separately



Since 1918, NTN has been a trusted OE manufacturer of high-performing bearing products that increase companies' productivity and efficiency.

- NTN has been the world's broad-line bearing manufacturer for nearly 100 years.
- NTN has the largest bearing manufacturing footprint in the United States.
- NTN is the largest supplier of American-made products to the construction and mining industries.
- NTN is a major supplier to over two-thirds of the world's "Fortune 500" manufacturing companies.
- More cars worldwide ride on NTN bearings and drivetrains than any other manufacturer's product.



- ◀ NTN was the first bearing manufacturer to be awarded the prestigious Deming Prize for recognition of its quality products and systems.

Beyond Bearings

Training. Installation Support.
Trouble-shooting. And more.

When you choose NTN, your team is equipped with all the necessary tools and resources to get the job done right. From installation to problem-solving, we'll be there with the hands-on support you need to take on your toughest challenges. This includes extra services such as:



Technical Training Unit

On-site, mobile training unit offering specialized, hands-on instruction from NTN engineers



Product Training School

Three days of in-depth instruction from NTN engineers at NTN headquarters or other regional locations around the country
(go.ntnamericas.com/trainingschool)



eKnowledge

WEB-BASED TRAINING PROGRAM

Eight online product training modules covering different bearing types and nomenclature
(www.ntnamericas.com/eknowledge)



NTN Bearing Finder

Customizable search tool featuring exhaustive data sets, comprehensive part interchanges and interactive CAD drawings
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