URB

The wise choice for **U**ltra **R**eliable **B**earings

URB GROUP

URB Railway Bearings

Cylindrical Roller Bearings
Spherical Roller Bearings
Ball Bearings

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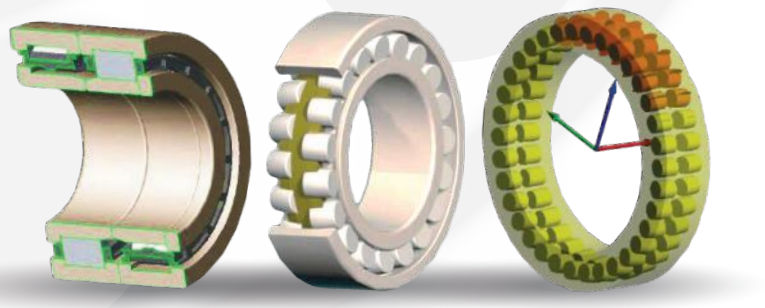


Introduction

For railway systems our company offers bearings operating at high speeds, to achieve high durability and minimal maintenance requirements.

The quality of our products is the result of 60 years of experience in the manufacture of bearings for railway applications.

Through research and development, their performance has been adapted to meet the high requirements of modern rail vehicles.

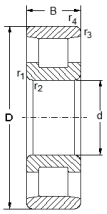
Our service includes expert advice on applications, technical consultancy, advanced rolling bearing calculation and testing, etc.

Our products

Our ranges of products covers applications for axle bearings , gearbox and drive motors and are in accordance with the requirements of UIC 510-1 , EN 12080 and EN 12082

We offer large ranges of bearings (ball bearings and roller bearings) for rail application:

Cylindrical Roller Bearings



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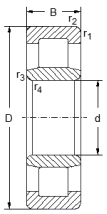

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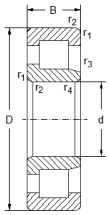

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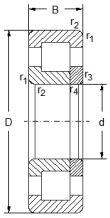


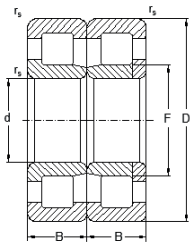
NUP

Designation	Dimensions mm			Basic radial load kN		Weight kg	Risk class
	d	D	B	dyn.	stat.		
NU204 EMA6C3L	20	47	14	25.7	22.2	0.132	1B
NU205 EMA6L	25	52	15	29.3	27.7	0.158	1B
NU207 EL	35	72	17	50.3	50.2	0.31	1B
NU207 EMAC4L	35	72	17	50.3	50.2	0.33	1B
NJ207 EMAC3L	35	72	17	50.3	50.2	0.33	1B
NJ207 MA6SQ1DCP	35	72	17	37.7	36.8	0.353	1B
NJ208 EMAC4L	40	80	18	52.6	51.6	0.514	1B
NJ212 MA6SQ1DCP	60	110	22	95	104	0.962	1B
NJ219 EMP63TR	95	170	32	210	249	3.24	1B
NJ220 EP62L	100	180	34	249	306	3.55	1B
NUP220 EMAP63L	100	180	34	249	306	3.88	1B
NU221 MAS0C3L	105	190	36	210	256	4.5	1B
NU222 EMP63L	110	200	38	279	343	5.29	1B
NU222 EMAP63L	110	200	38	279	343	5.69	1B
NUP222 EMC4TR	110	200	38	279	343	5.57	1B
NU224 EMC3L	120	215	40	329	412	6.46	1B
NU224 EMAP63L	120	215	40	329	412	6.43	1B
NU226 EMAP63L	130	230	40	356	443	7.45	1B
NU228 EMC3L	140	250	42	372	479	9.1	1B
NU228 EMAP63S0L	140	250	42	372	479	9.1	1B
NU230 EMAP63S0L	150	270	45	422	550	11.67	1B
NUP230 EMP63L	150	270	45	422	550	12.1	1B
NUP230 EMP63TR	150	270	45	422	550	12.1	1B
NUP230EMAP63TR	150	270	45	422	550	11.67	1B
NU232 EMAC3S0L	150	290	48	498	666	14.84	1B
NF236 MC4L	180	320	52	610	830	19	1B
NU2218 EMAC3L	90	160	40	242	314	3.58	1B
NU2219 EMP63TR	95	170	43	273	345	4.29	1B
NJ2219 EMP63TR	95	170	43	273	345	4.38	1B
NUP2219 EMP63TR	95	170	43	273	345	4.42	1B
NU2220 EMP63TR	100	180	46	319	418	5.15	1B
NJ2220 EMAP63L	100	180	46	319	418	5.22	1B
NJP2220 EMAP63L	100	180	46	319	418	4.77	1B

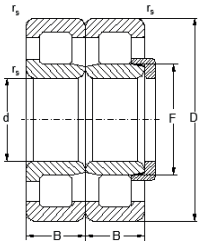
Designation	Dimensions mm			Basic radial load kN		Weight kg	Risk class
	d	D	B	dyn.	stat.		
NU2222EMAP63S0L	110	200	53	383	516	7.22	1B
NUP2222 EMAP63L	110	200	53	383	516	7.86	1B
NU2224 EMAP63L	120	215	58	446	609	9.16	1B
NU2226 EMAP63L	130	230	64	523	726	11.6	1B
NU2226 EMC3L	130	230	64	523	726	11.6	1B
NU305 EMAC3L	25	62	17	41.2	37	0.296	1B
NJ305 EMAC3L	25	62	17	41.2	37	0.296	1B
NU306 EMAC3L	30	72	19	50.5	47	0.445	1B
NU307 EMAC3L	35	80	21	66.7	65.4	0.596	1B
NU307 EML	35	80	21	66.7	65.4	0.584	1B
NU308 EMAC3L	40	90	23	79.9	77.5	0.744	1B
NU308 EMC3L	40	90	23	79.9	77.5	0.745	1B
NU309 EP63L	45	100	25	97.4	98.3	0.897	1B
NU309 EMC3L	45	100	25	97.4	98.3	1.022	1B
NU309 EMAP63L	45	100	25	97.4	98.3	1.035	1B
NU310 EMAP63L	50	110	27	110	112	1.297	1B
NU310 EMAP63SQ1	50	110	27	110	113	1.277	1B
NU312 EMAC3L	60	130	31	150	157	2.121	1B
NJ312 EM6C3SQ1	60	130	46	210	241	3.143	1B
NU314 EC4L	70	150	35	205	222	2.822	1B
NU314 EMA6P63L	70	150	35	205	222	3.208	1B
NU314 EM6P63L	70	150	35	205	222	3.213	1B
NU315 EMP63TR	75	160	37	240	263	3.84	1B
NU315 EMP63SQ1	75	160	37	226	243	3.826	1B
NUP315 EMP63TR	75	160	37	240	263	3.82	1B
NU316 EMAP63L	80	170	39	253	277	4.27	1B
NU317 EMAC3L	85	180	41	288	325	5.8	1B
NUP317 EMAP63L	85	180	41	288	325	5.4	1B
NU318 EMA P64L	90	190	43	311	349	6.44	1B
NU318 EMA P64L	90	190	43	311	349	6.44	1B
NJ318 EMC3L	90	190	43	311	349	6.14	1B
NJ318 EMAC3L	90	190	43	311	349	5.4	1B
NJ318 EMC4SQ1+HJ318ESQ1	90	190	43	311	349	6.913	1B
NU320 EMP63L	100	215	47	381	427	8.53	1B
NU320 EMAP63L	100	215	47	381	427	8.6	1B
NJ320 EMC3L	100	215	47	381	427	8.6	1B
NJ320 EMAC3L	100	215	47	381	427	8.6	1B
NUP320 EMP63TR	100	215	47	381	427	8.23	1B
NU322EC3L	110	240	50	443	513	11.03	1B
NU322 EMAP63L	110	240	50	443	513	11.9	1B
NU322 EMP63L	110	240	50	443	513	11.66	1B
NU322 EMAP63S0L	110	240	50	443	513	11.03	1B
NJ322 EMC4SQ1+HJ322ESQ1	110	240	50	416	471	13.192	1B
NJ324 EMC3L	120	260	55	543	644	14.99	1B
NU324 EMP63L	120	260	55	549	644	14.84	1B
NU326 EM6C3L	130	280	58	607	722	18.9	1B
NU326 EMAP63L	130	280	58	607	722	18.65	1B
NU1020 MAC3L	100	150	24	89	120	1.37	1B
NU1026 MC4L	130	200	33	163	221	3.76	1B
NU1026 MAC3L	130	200	33	163	221	3.76	1B
NU1026 MAC4S0L	130	200	33	163	221	3.76	1B
NU1032 MAP63L	160	240	38	230	328	6.04	1B
NU1034 MC3L	170	260	42	277	400	8.74	1B
NU1036 MC3L	180	280	46	336	479	10.52	1B
NU1036 MC3TR	180	280	46	336	479	10.52	1B
NU1040 MP63L	200	310	51	395	590	14.1	1B
NU1044 MAP63L	220	340	56	650	1047	18.7	1B
NU1044 MAP63S0L	220	340	56	650	1047	18.5	1B
NJ2314 MC3SQ1	70	150	51	223	263	4.535	1B
NU2316 EMAP63L	80	170	39	353	425	6.6	1B
NU2317 EMA6P63L	85	180	60	368	446	7.6	1B
NU2218 EMAC4SQ1	90	160	40	242	314	3.62	1B
NUP2218 EMAC4SQ1	90	160	40	242	314	3.71	1B
NU2319 MAP63L	95	200	67	390	491	9.3	1B
NU2322 EMAP63L	110	240	80	667	868	19.27	1B
NU2322 EMAS0P63L	110	240	80	667	868	19.27	1B
NU2948 MAP63L	240	320	48	363	689	11.20	1B

Designation	Dimensions mm			Basic radial load kN		Weight kg	Risk class
	d	D	B	dyn.	stat.		
NU407 MAP63L	35	100	25	75.7	69.4	1.17	1B
NU410 MAC3L	50	130	31	139	136	2.25	1B
NU410 MAS0C3L	50	130	31	139	136	2.25	1B
NU414 MAP63L	70	180	42	240	253	5.9	1B
NU416 MAP63L	80	200	48	316	339	7.5	1B
NU424 MP64TR	120	310	72	677	776	29.92	1B
NU424 MC4SQ1	120	310	72	677	776	30.918	1B
487632 MASC4	160	270	168	1000	1760	39.21	1B

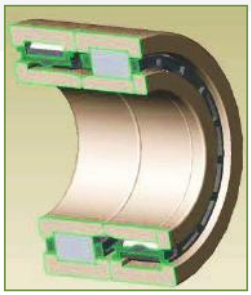
Cylindrical Roller Bearings Standardized by UIC



NJ+NJP
WJ+WJP

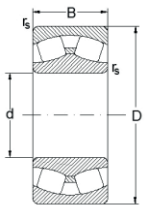


WJ+WUJ



Designation	Dimensions mm			Basic radial load kN		Weight kg	Risk class
	d	D	B	dyn.	stat.		
WJ+WUJ110/215 MC3	110	215	73	773	1188	26.04	1A
WJ+WJP 110/215 MC3	110	215	73	773	1188	25.34	1A
WJ+WJP117/240 MC4	117	240	160	946	1464	34.7	1A
WJ+WJP118/240 MC4	118	240	160	946	1464	34.46	1A
WJ+WJP118/240 TNC4	118	240	160	946	1484	34.46	1A
WJ+WJP119/240 MC4	119	240	160	946	1484	34.22	1A
WJ+WJP120/240 MC3	120	240	160	946	1484	33.98	1A
WJ+WJP120/240 TNC3	120	240	160	946	1484	31.7	1A
WJ+WJP130/240 MC3	130	240	160	951	1620	32.74	1A
WJ+WJP130/240 TNC3	130	240	160	951	1620	30.08	1A
WJ+WJP130/250 MC4	130	250	160	1028	1660	37.7	1A
WJ130/250 F	130	250	80	609	816	18.874	1A
WJP130/250 F	130	250	80	609	816	18.874	1A
WJ+WJP130/250 F	130	250	160	1028	1660	37.75	1A
WJ+WJP130/260M6C4	130	260	172	1212	1932	37.7	1A
WJ+WJP140/300 MC4	140	300	102	1554	2460	71.62	1A
WJ+WJP160/320 MC4	160	320	102	1630	2676	81.57	1A
RWJ110/215 M	-	215	73	459	607	9.823	1A
RWJ120/240 M	-	240	80	560	755	12.780	1A
RWJ120/240 TN	-	240	80	560	755	11.636	1A
RWJ130/240 M	-	240	80	563	823	12.47	1A
RWJ130/240 TN	-	240	80	563	823	11.143	1A
RWJ130/250 M	-	250	80	626	885	14.249	1A
RWJ140/300 M	-	300	102	990	1250	27.476	1A

Spherical Roller Bearings



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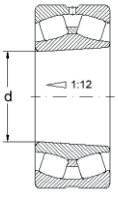

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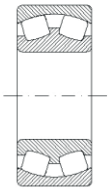

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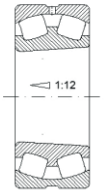

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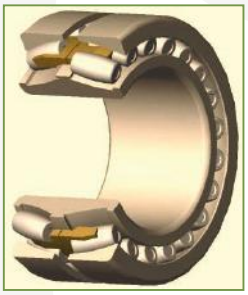
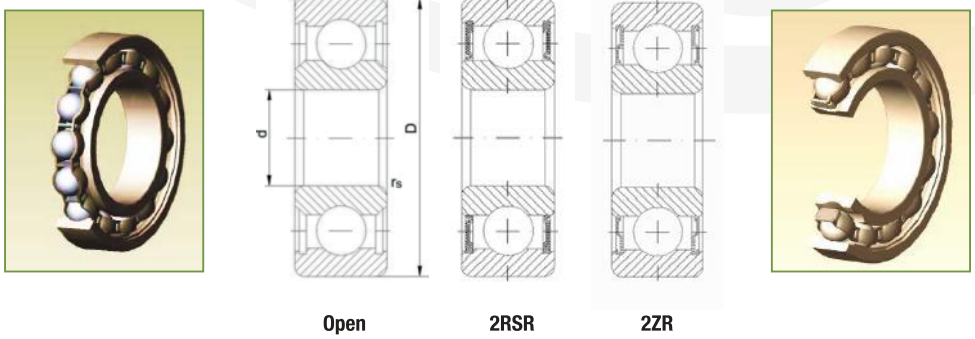


Designation	Dimensions mm			Basic radial load kN		Weight kg	Risk class
	d	D	B	dyn.	stat.		
22218 MBC3L	90	160	40	280	375	3.57	1B
22219 CKW33L	95	170	43	340	450	4.15	1B
22219 MBKL	95	170	43	310	415	4.3	1B
22219 MBKC3	95	170	43	310	415	4.3	1B
22219 MBKC3W33L	95	170	43	310	415	4.28	1B
22220 MBC3L	100	180	46	340	455	5.24	1B
22220 MBC4L	100	180	46	340	455	5.24	1B
22220 MBC3W33L	100	180	46	340	455	5.31	1B
22220 MBC4W33L	100	180	46	340	455	5.31	1B
22220 MBKC4L	100	180	46	340	455	5.24	1B
22220 MBKC4W33L	100	180	46	340	455	5.2	1B
22234 MBC3L	170	310	86	1080	1610	28.5	1B
22236 MBC3L	180	320	86	1110	1720	29.69	1B
22236 MBC3W33L	180	320	86	1110	1720	29.54	1B
22311 MBKW33L	55	120	43	220	255	2.1	1B
22311 MBKC3W33L	55	120	43	220	255	2.1	1B
22314 MBC4L	70	150	51	340	420	4.31	1B
22316 MBC4L	80	170	58	410	500	6.25	1B
22316 CC3L	80	170	58	450	550	6.29	1B
22318 MBC3L	90	190	64	530	670	8.69	1B
22318 CC3L	90	190	64	570	730	8.52	1B
22318 CC3TR	90	190	64	570	730	8.52	1B
22318 CYC3TR	90	190	64	570	730	8.73	1B
22318 CYC3W33TR	90	190	64	570	730	8.71	1B
22319 MBC3L	95	200	67	570	740	10.1	1B
22320 MBKC3L	100	215	73	670	880	13.49	1B
22320 MBKC3W33L	100	215	73	670	880	13.09	1B
22320 CKC3L	100	215	73	730	960	12.67	1B
22320 CKC3W33L	100	215	73	730	960	12.55	1B
22338 MBC3L	190	400	132	1860	2500	87.8	1B
23036 CKC3L	180	280	74	870	1500	18.36	1B
23220 MBC3L	100	180	60.3	455	660	6.99	1B
23220 MBC3W33L	100	180	60.3	455	660	6.98	1B
23220 MAC3L	100	180	60.3	455	660	7.04	1B
23220 MAP63L	100	180	60.3	455	660	7.04	1B
23220 MAP63W33L	100	180	60.3	455	660	7.03	1B
23222 MBL	110	200	69.8	570	840	9.70	1B
23222 MBC3L	110	200	69.8	570	840	9.70	1B
23222 MBW33L	110	200	69.8	570	840	9.70	1B
23222 MBKC3L	110	200	69.8	570	840	9.50	1B
23222 MBKC4L	110	200	69.8	570	840	9.50	1B
23222 MBKC3W33L	110	200	69.8	570	840	9.40	1B
23222 MBKC4W33L	110	200	69.8	570	840	9.40	1B
23226 MBP63L	130	230	80	760	1170	14.97	1B
23226 MBC3W33L	130	230	80	760	1170	14.95	1B
23040 MBW33P6L	230	310	82	760	1350	21.82	1B
23234 CC3L	170	310	110	1460	2320	35.82	1A
23234 CC3W33L	170	310	110	1460	2320	35.67	1A
23234 CC3W33-168L	168	310	110	1460	2320	35.77	1A
23234 CC3W33-169L	169	310	110	1460	2320	35.77	1A
23234 MBC3AS	170	310	110	1200	1844	35.77	1A
24132 CC3W33L	160	270	109	1250	2110	24.96	1A
24132 CC3W33-158L	158	270	109	1250	2110	25.040	1A
24132 CC3W33-159L	159	270	109	1250	2110	25.040	1A
24132 MBW33L	160	270	109	940	1558	25.38	1A
24136CC3L	180	300	118	1460	2590	33.52	1A
24136CC3-178L	178	300	118	1460	2590	33.52	1A
24136CC3-179L	179	300	118	1460	2590	33.52	1A
24136CC3W33L	180	300	118	1460	2590	33.42	1A
24136CC3W33-178L	178	300	118	1460	2590	33.42	1A
24136CC3W33-179L	179	300	118	1460	2590	33.42	1A
25126 MBKC3L	130	240	80	572	1104	15.314	1A
25128 MBKC4L	140	260	86	663	1288	19.960	1A
25129 CYC3L	144.475	250	80	728	1210	16.53	1A
25226 CC3L	131.796	220	73	561	934	11.192	1A
25226 CYC3W33L	131.796	220	73	561	934	11.172	1A
25326 CC3L	130	220	73	561	934	11.35	1A

Designation	Dimensions mm			Basic radial load kN		Weight kg	Risk class
	d	D	B	dyn.	stat.		
22326 MBL	130	280	93	1080	1450	28.59	1A
23034 MBKC3L	170	260	67	680	1170	14.22	1A
23036 MBKC3L	180	280	74	800	1380	17.15	1A
23040 MBKC3L	200	310	82	760	1350	21.92	1A
23040 MBC3L	200	310	82	760	1350	22.02	1A
23956 MBC3W33L	180	250	52	454	830	7.79	1A

Radial Ball Bearings



Open **2RSR** **2ZR**

Designation	Dimensions mm			Basic radial load kN		Weight kg	Risk class
	d	D	B	dyn.	stat.		
6200 2RSRP6ELL	10	30	9	5.1	2.4	0.032	1B
6201 2RSRP6ELL	12	32	10	6.9	3.1	0.037	1B
6202 2RSRP6ELL	15	35	11	7.8	3.8	0.046	1B
6203 2RSRP6ELL	17	40	12	26	48	0.07	1B
6204 2RSRP6ELL	20	47	14	12.8	6.7	0.105	1B
6206 2ZRL	30	62	16	19.3	10.8	0.197	1B
6207 2ZL	35	72	17	25.7	15.6	0.29	1B
6304 P64L	20	52	15	15.9	7.9	0.158	1B
6308 C3L	40	90	23	40.8	24	0.641	1B

Internal Design
B - Asymmetrical rollers
C - Symmetrical rollers
E - Max. capacity symmetrical
R - Bearings without inner rings

Bore Type
K - Tapered bore ratio 1:12
No code - Cylindrical

Running accuracy
P6 - Dimensional and running accuracy to ISO tolerance class 6 P63 - P6 +C3

Cage
M - Machined brass cage, roller centered
MA - Machined brass cage, outer ring centered
MB - Machined brass cage, inner ring centered
TN - Injection molded cage of glass fiber reinforced polyamide 6.6

Radial Clearance
No code - Standard
C3 - Greater than Standard
C4 - Greater than C3

Lubrication, sealing
W33 - Annular groove and three lubrication holes in the outer ring
2RSR - Bearing with 2 seals
2 ZR - Bearing with 2 shield

Destination
TR- traction motor bearings
L - Locomotive bearings
EL - Motor bearings
S0- Stabilized rings for working up to 1500
The bearings with suffix "TR", "L", "EL" are used for Romanian railways, with approval from AFER (Romanian Railway Authority).
For external market we offer bearings with suffix "SQ0" and "SQ1", depending on the mounting location (for axle boxes use "SQ0" and for traction motors "SQ1").

***SQ0** – special technical conditions related to bearings for railway axle-boxes:*
- *Larger axial clearance than standard bearing*
- *Modified contact roller end/flange*
- *Super finished raceways*
- *Special heat treatment for rings and rollers (low content of residual austenite)*
- *Special crack control for rings and rollers*

***SQ1** – special technical conditions related to bearings for traction motors:*
- *Axial clearance greater than that of standard bearings*
- *Inclination angle of the ring shoulder is a = 30 '± 10'*
- *Superfinished raceways*
- *Low residual austenite for rings and rollers*
- *Cracks checking 100% / detecting for roller and inner and outer rings*
- *Rollers are processed in accuracy class II*
- *Radial runout of inner ring must be one class superior than accuracy class of the outer ring (e.g. P6 class of inner ring is better than P0 class of outer ring).*

Raw material:

Bearing rings and rollers: 100Cr6, 100CrMnSi6-4

Structure of the steel after heat treatment:

The residual austenite varies in the range from 3 to 10 %
Hardness of the bearing rings is in the range 58-64 HRC
Hardness of rollers after heat treatment is in the range 58-64 HRC
Dimensional stability up to 150°C (S0)

Calculation of rating life:

Bearing life shall be calculated using ISO 281:2007.
For the calculation of roller bearing life the standard life equation is should be used according ISO 281:2007.

$$L_{10} = \left(\frac{C}{P}\right)^{p}; \quad L_{10h} = \frac{16666}{n}\left(\frac{C}{P}\right)^{p};$$

It is possible to convert the bearing life to vehicle running distance.

$$L_{10s} = L_{10}\frac{\pi \cdot D_w}{1000}$$

where:

- L_{10} = *basic rating life, millions of revolutions;*
- L_{10h} = *basic rating life, hours;*
- C = *basic dynamic load rating according to ISO 281, kN;*
- P = *dynamic equivalent bearing load, kN;*
- D_w = *wheel diameter, m;*
- L_{10s} = *bearing life expressed as vehicle running distance, millions of km;*
- n = *rotational speed, r/min;*
- p = *life exponent (3 for ball bearings and 10/3 for roller bearings).*

Cylindrical roller bearings life calculation for railway vehicle axle boxes:

Cylindrical roller bearings life calculation for railway vehicle axle boxes is based on the maximum static axle load at rail which is calculated from the equation:

$$G_1 = G/n - G_2$$

where:

- G - *Weight of the vehicle, kN;*
- G_1 - *Radial static load acting on one wheel set (axle load), kN;*
- G_2 - *Weight of a wheel set and others unsprang parts, kN;*
- n - *Number of wheel sets, kN;*

Then radial static load acting on one bearing will be:

$$P_{0r} = G_1/4;$$

Radial equivalent dynamic load acting on one bearing is calculated from the equation:

$$P = P_{or} \times f_d$$

f_d - factor of additional forces;

Factor f_d

Type of vehicles	f_d
Passenger carriages	1.2 ÷ 1.3
Other passenger rolling stock power bogies	1.2 ÷1.4
Locomotives	1.3 ÷ 1.6

For performing calculation modified life we developed a program for computer which consider the fatigue stress limit of the bearing steel and make it easy to estimate the influence of lubrication and contamination on bearing life.

Recommended life values for axleboxes bearings			
Type of vehicle	L_{10s}	D_w	C/P
	mill.km	m	-
Freight cars [1]	1,7	0,9	6,8
Local traffic vehicles	1,5 to 2	0,7	7,1 to 7,7
Passenger coaches rail cars for district traffic [2]	2,0 to 4	0,9	7,2 to 8,8
Rail cars for long distance traffic	3,0 to 5	1,0	7,8 to 9,1
Locomotives	2,0 to 5	1,2	6,6 to 8,6

[1] *According to UIC: L_{10s} = 0.8 million km under constant full payload*
[2] *According to UIC: L_{10s} = 3,0 million km*

Recommended lubricants:

According to EN 12081:2007 + A1: 2010 the grease requirements are given for two bearing speed classes:

- Class A - greases for rolling bearings in axle boxes with $n \times d_m \leq 250000$;
- Class B - greases for rolling bearings in axle boxes with $n \times d_m > 250000$;

where:
n - inner ring speed in rev / min;
d_m - bearing mean diameter (D + d) / 2, in mm;
D - bearing outside diameter, in mm;
d - bearing bore diameter, in mm;

Note: The value $n \times d_m = 250000$ corresponds to a wheel diameter of 840 mm, a bearing mean diameter d_m = 195 mm and a vehicle speed of 200 km / h.

Grease	Manufacturer
CARRIER LZS-2EP	MOL-Ungaria
SHELL Alvania 2760 B	SHELL
SHELL Nerita HV	SHELL
Eldon's Letonia LR-2 EP	Eldon's Latvia
INA LIS EP2	INA - Zagreb Croatia

Bearing Test Laboratory:

In our laboratory are taking place following tests:
- Tests for confirmation of basic dynamic load rating or rating life estimation for bearings from currently manufacture;
- Tests of rating life, required by customers;
Tests on research problems (for verification of theoretically aspects regarding bearings design)

Research and development:

Rulmenti SA Barlad company with 60 years experience in designing bearings has the ability to continuously develop new products and services that improve our clients' products.

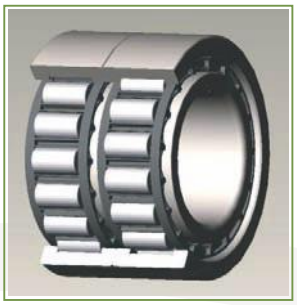
For these investments in technology and specialists, specialized software for the calculation and optimization of the existing construction (Rolling Bearing Calculation and Shaft Calculation), new materials, metal coatings have been made, increasing the lifetime of our products.

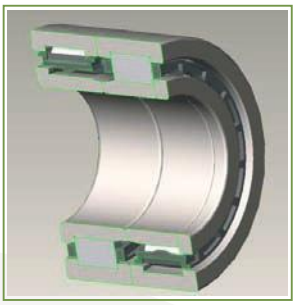
An important factor of quality improvement of cylindrical roller bearings is continuous design improvement (tapered ring shoulder and roller end crowning to increase the axial load capacity), optimizes lubrication, increases loading capacity, minimizes edge stresses and use polymer cage for axle box application.

Technical support 3D Modeling:

Advantages

- High level of Local Area Network integration;
- Traceability;
- Workgroup based, interactive designing;
- 3D visualization.

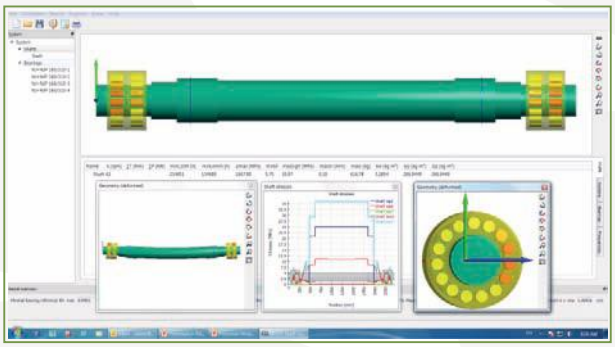




Rolling Bearing and Shaft Calculation:

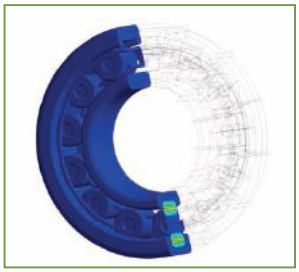
Advantages

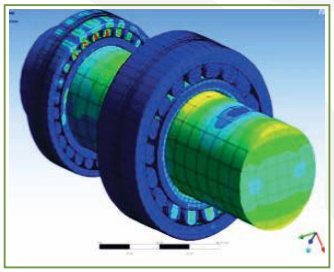
- Fast and precise computing of loads, efforts and lubricating conditions;
- Calculation of the characteristics of all the bearing types.



Finite Element Analysis (FEA)

- Finite element tool for structural analysis.

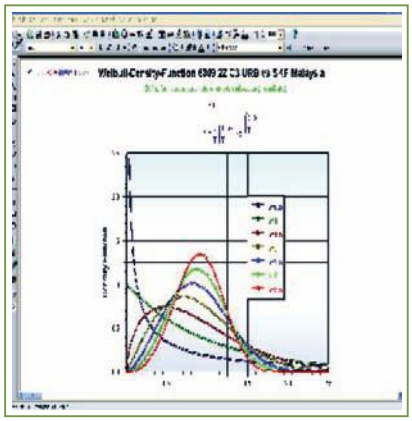


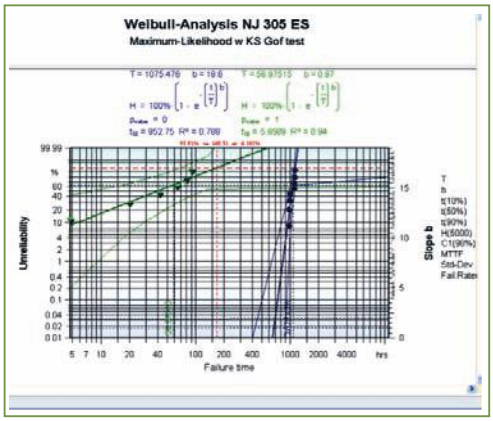


Visual XSel v. 12.0

Advantages

- Implementing the accurate Weibull analysis for laboratory tests.
- Precise lifespan evaluation.



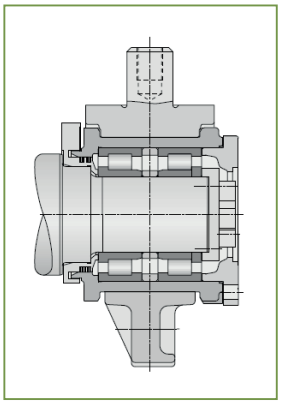


Applications

URB bearings are running on following railways systems:
Turkish, Bulgarian, Romanian, Polish, Vietnamese and Greek.

Examples of axle box applications for bearings type WJ+WJP

Cylindrical roller bearing with brass cage



Cylindrical roller bearing with polyamide cage

Siemens ER20 BF 2016 751-1

Siemens - 1116 024-9

7960 208-3 Zas

Uagpps - 33 RIV 52 BG-APCH 9345 005-2

Freight wagons with Y25 bogies

Gorlitz IV-Germany double-decker wagon

Eakkmos - 88 53 RO TFG 5366 25

Passenger wagons with Minden - Deutz bogies

Electrical frame 1870 KW

Bogies for transposed (large way)

URB GROUP

The company was set-up on May 1953 and it has a long tradition in manufacturing of bearings over 60 years, being one of the important bearing manufactures in the Central and South-East Europe.

The key to success has been a consistent emphasis on maintaining the highest quality of our products and services and investment in research and development.

We include the respect for customers and the satisfaction of their needs among our fundamental principles. Therefore we tried to respond better to the market requirements by offering, besides the standard bearings, a large range of non-standardized bearings, specific to various applications.