



YOUR ROPE IS
OUR PASSION

SPECIAL WIRE ROPES

THE ADVANCED LINE

 **OLIVEIRA**

A WireCo® WorldGroup Brand

INTRODUCTION



Quality Products, Outstanding Service and Comprehensive Technical Support – It's what today's industries expect from their supplier partners. And that's what WireCo WorldGroup is all about.

WireCo WorldGroup is the global market, manufacturing and technical leader in wire and synthetic rope manufacturing, providing a consultative approach to offer customers a single, reliable source for performance matched solutions to fit their specific application and budget needs. But it doesn't stop there. WireCo WorldGroup offers clients the education and expertise needed to enhance product performance and value.

With our comprehensive range of trusted, global brands we deliver unmatched technical expertise and innovation as well as unparalleled quality assurance meeting and exceeding international quality certifications.

WireCo WorldGroup is on the ground everywhere you are - with manufacturing and distribution facilities all around the world and more than 4,000 global employees supporting these efforts. Our customers enjoy global availability for a consistent, responsive supply no matter where and when they need it.

OLIVEIRA

Already in the 6th generation Oliveira's goal is to provide valuable solutions to our customers. Our products meet the international standards and offer an excellent value to your application.



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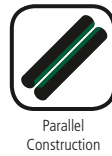
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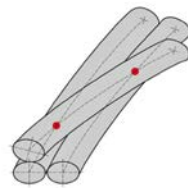
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GENERAL DEFINITIONS

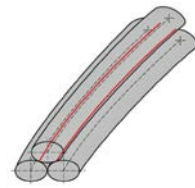
PARALLEL LAY ROPES



In a non parallel lay rope all wires and strands have different lay length. The high stress concentration at the crossover point leads to an early internal failure. In a parallel lay rope all wires and strands have the same lay length. The linear contact leads to an optimal stress distribution. Furthermore the compacted parallel design leads to a higher fill factor and breaking strength.



cross lay (non-parallel)
stress concentration



parallel lay
stress distribution

PPI - PLASTIC PROTECTED IMPREGNATION



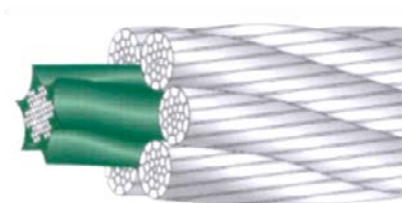
In consequence of being not only a steel wire rope producer but also a synthetic rope manufacturer, Oliveira has a strong and deep know-how of plastic and its applications. The PPI operation is applied during the Oliveira process in one continuous operation which guarantees a perfect impregnation and equal stress and tension of all the components. Resulting the plastic forms only small braces between the strands so they can keep their flexibility to give in to the relative movements within the rope.

Positive effects:

- Allows a homogeneous stress distribution in the rope
- Improves the structural stability
- Encapsulates the lubricant in the core
- Protects the core from corrosion

Resulting in:

- A longer service life
- Keeping its non rotational properties in the most severe conditions
- Internal rope protection against corrosive environment
- Favouring outer maintenance



SWIVEL USE



Rotation resistant ropes can be used with a swivel.
All other rope constructions may not be used with a swivel!



ISO 21669 – General guidance on swivel use (rotation-resistance)

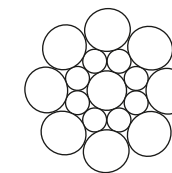
- Less than or equal to 1 turn/1000d lifting a load equivalent to 20%MBF, a swivel can be used
- Greater than 1 turn but no greater than 4 turns/1000d – a swivel may be used subject to the recommendations of the rope manufacturer and/or approval of a competent person
- Greater than 4 turns/1000d – a swivel should not be used

COMPACTING

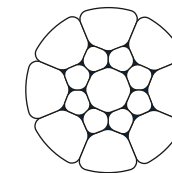


OLIVEIRA is using the most improved and updated technology in the world (multiroll system) for compacting the strands, resulting in:

- Perfect control of the calibration and of the cross section
- No outer surface wearing and injuring
- No peel-off of the zinc coating
- No damage of the inner wires, thanks to the gradual lamination
- All these properties lead the ropes to the highest performance and resistance to fatigue, when compared with the other usual compacting technologies.



conventional strand



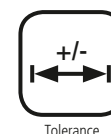
compacted strand

LUBRICATED



As a standard feature, Oliveira special wire ropes receive intensive lubrication during the production process. This in-process treatment will provide the rope with ample protection against corrosion and it is meant to reduce the friction between the elements which make up the rope as well as the friction between rope and sheaves or drums. This lubrication, however, only lasts for a limited time and should be reapplied periodically.

PRODUCTION TOLERANCE

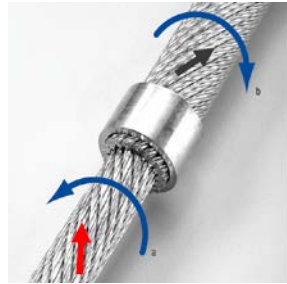


Oliveira special wire ropes are produced within a tolerance range between +0% and +5%. Generally the standard production tolerance is at the upper limit of the tolerance range, between +1% and +4%. For this reason Oliveira special wire ropes fulfill the requirements of the famous drum manufacturers.

GENERAL DEFINITIONS

ROTATION-RESISTANT ROPES

In a conventional rope, an external load creates a moment which tries to untwist the rope. A rotation resistant steel wire rope has a steel core which is an independent rope, closed in the opposite direction to the outer strands. Under load, the core tries to twist the rope in one direction, the outer strands try to twist it in the opposite direction. The geometrical design of a rotation resistant wire rope is such that the moments in the core and the outer strands compensate each other over a wide load spectrum, so that even with great lifting heights practically no rope twist occurs.



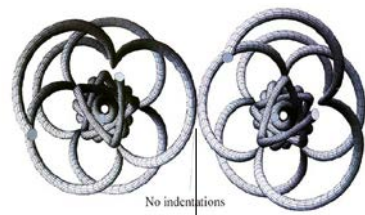
MULTIPLE LAYER SPOOLING

A drum coiling a rope in more than one layer is a multiple layer system with new demands to a wire rope.

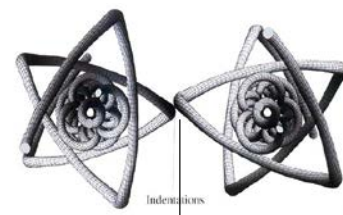
- Low diameter reduction under tension
- Crushing resistance in crossovers and layer crossovers
- Extreme smooth surface for less indentations or pressure in crossovers

The following rope properties are required for a long service life:

- Lang's lay to prevent indentations

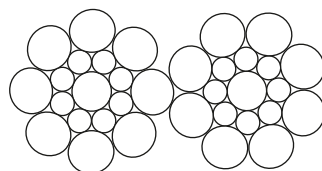


Lang's lay ropes: no indentations of outer wires

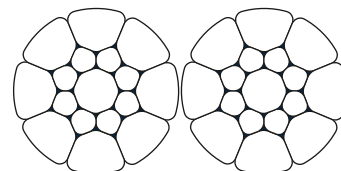


regular lay ropes: indentations of outer wires

- Compacted outer strands to prevent indentations



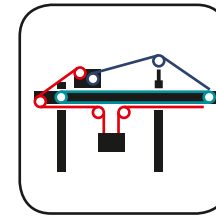
conventional strand



compacted strand

ROPE SELECTION BY APPLICATION

CONTAINER CRANE



HOIST ROPE

- OLIVEIRA HD 8 K (Option PPI)

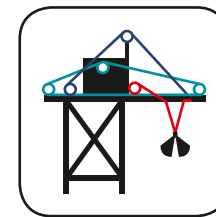
BOOM HOIST

- OLIVEIRA HD 8 K (Option PPI)

TROLLEY

- OLIVEIRA HD 8 K (Option PPI)
- OLIVEIRA SC 8 C (Option PPI)

SHIP UNLOADER



HOIST ROPE

- OLIVEIRA HD 8 K (Option PPI)

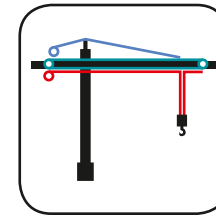
BOOM HOIST

- OLIVEIRA HD 8 K (Option PPI)

TROLLEY

- OLIVEIRA HD 8 K (Option PPI)
- OLIVEIRA SC 8 C (Option PPI)

TOWER CRANE



HOIST ROPE

- OLIVEIRA TOWERLIFT 15
- OLIVEIRA LT 24 C
- OLIVEIRA LT 24 K

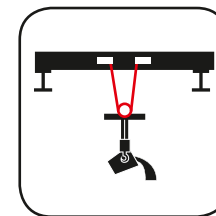
BOOM PENDANT

- OLIVEIRA HD 8 K (Option PPI)

TROLLEY

- OLIVEIRA SC 8 C (Option PPI)
- OLIVEIRA SC 6 K

STEELWORKS LADLE

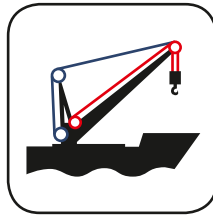


HOIST ROPE

- OLIVEIRA HD 8 K (Option PPI)
- OLIVEIRA SC 8 C (Option PPI)
- OLIVEIRA SC 6 K

Please note: Option PPI if temperature is below 115 degrees C on the surface of the rope!

DECK CRANE



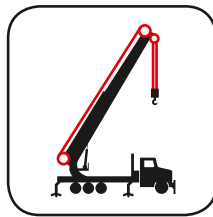
HOIST ROPE

- OLIVEIRA NR MAXIPACT (Option PPI)
- OLIVEIRA NR 15 MAXILIFT (Option PPI)
- OLIVEIRA DC 4 K

BOOM HOIST

- OLIVEIRA HD 8 K (Option PPI)

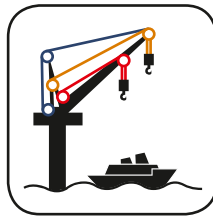
TELESCOPIC MOBILE CRANE



HOIST ROPE

- OLIVEIRA NR MAXIPACT (Option PPI)
- OLIVEIRA NR 15 MAXILIFT (Option PPI)

OFFSHORE PEDESTAL CRANE



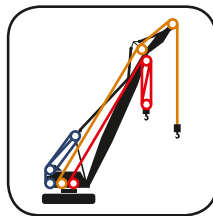
HOIST ROPE

- OLIVEIRA NR MAXIPACT (Option PPI)
- OLIVEIRA NR MAXIPACT (Option PPI)

BOOM HOIST

- OLIVEIRA HD 8 K (Option PPI)

LATTICE BOOM CRAWLER CRANE



HOIST ROPE

- OLIVEIRA NR MAXIPACT (Option PPI)
- OLIVEIRA NR 15 MAXILIFT (Option PPI)
- OLIVEIRA LT 24 K

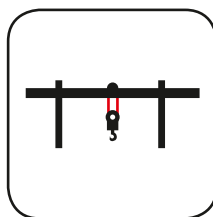
BOOM HOIST

- OLIVEIRA DP 8 K (Option PPI)
- OLIVEIRA HD 8 K (Option PPI)

AUXILIARY HOIST

- OLIVEIRA NR MAXIPACT (Option PPI)
- OLIVEIRA NR 15 MAXILIFT (Option PPI)

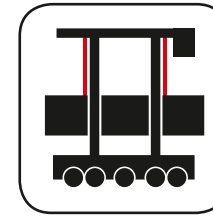
RUBBER TIRED GANTRY / RAIL MOUNTED GANTRY



HOIST ROPE

- OLIVEIRA HD 8 K (Option PPI)
- OLIVEIRA DP 8 K (Option PPI)

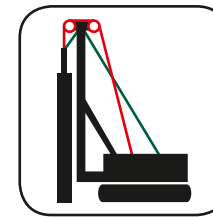
STRADDLE CARRIERS



HOIST ROPE

- OLIVEIRA HD 8 K (Option PPI)
- OLIVEIRA DP 8 K (Option PPI)

DRILLING / PILING



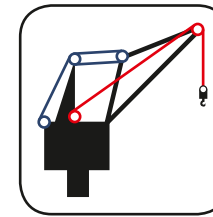
HOIST ROPE

- OLIVEIRA NR 15 MAXILIFT (Option PPI)

FEED ROPE

- OLIVEIRA HD 8 K (Option PPI)

HARBOR MOBILE CRANE



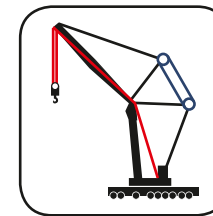
HOIST ROPE

- OLIVEIRA HD 8 K (Option PPI)

BOOM HOIST

- OLIVEIRA HD 8 K (Option PPI)

LATTICE BOOM MOBILE CRANE



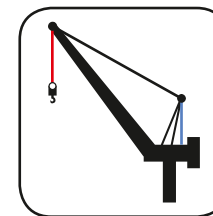
HOIST ROPE

- OLIVEIRA NR MAXIPACT (Option PPI)
- OLIVEIRA NR 15 MAXILIFT (Option PPI)
- OLIVEIRA LT 24 K

BOOM HOIST

- OLIVEIRA DP 8 K (Option PPI)
- OLIVEIRA HD 8 K (Option PPI)

LUFFING-JIB TOWER CRANE



HOIST ROPE

- OLIVEIRA NR MAXIPACT (Option PPI)
- OLIVEIRA NR 15 MAXILIFT (Option PPI)

BOOM PENDANT

- OLIVEIRA HD 8 K (Option PPI)
- OLIVEIRA DP 8 K (Option PPI)



ROTATION-RESISTANT ROPES

- Designed to generate reduced levels of torque and rotation when loaded.
- Designed with at least two layers of strands laid helically around a center.
- The direction of lay of the outer strands being opposite to that of the underlying layer.

NAVIGATION

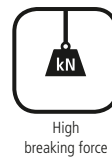
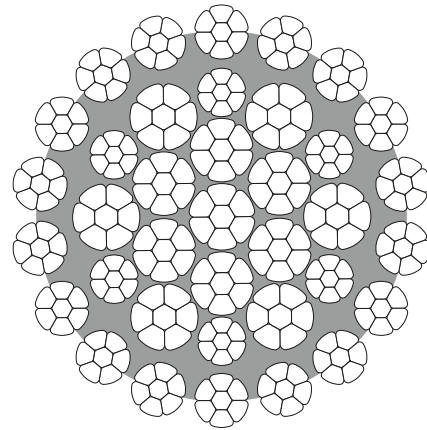
// ROTATION-RESISTANT

NR Maxipact (Option PPI)
NR15 Maxilift (Option PPI)
Towerlift 15
LT 24 K
LT 24 C

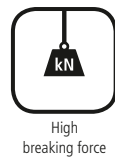
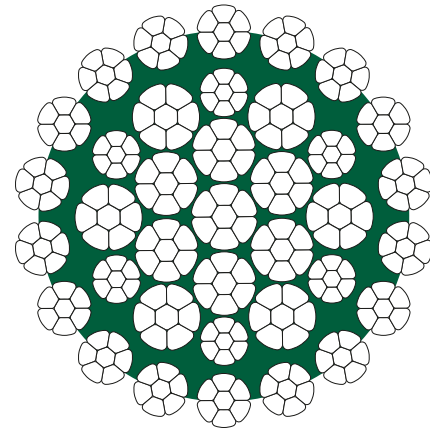
// SEMI-ROTATION-RESISTANT

// NON-ROTATION-RESISTANT

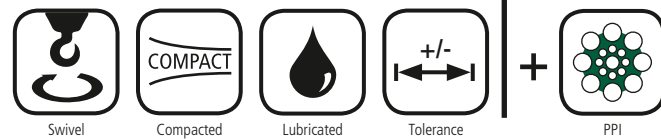
OLIVEIRA
NR MAXIPACT



OLIVEIRA
NR MAXIPACT PPI



PROPERTIES



APPLICATIONS

All cranes and performant lifting devices where non-rotating and high MBL ropes are required.

Recommended for offshore, deck cranes and marine environment.

OVERVIEW

| RCN | Diameter range [mm] | Construction | Number of outer strands | Number of wires | Number of outer load bearing wires | Average fill factor | Average spin factor |
|------|---------------------|--------------|-------------------------|-----------------|------------------------------------|---------------------|------------------------------|
| 23-3 | 12,70 – 52 | 37xK7 | 18 | 259 | 126 | 0,716 | 0,85 (1960*) 0,81 (2160*) |
| 30 | 54 – 64 | 37xK19 | 18 | 710 | 342 | 0,726 | 0,83 (1960*) 0,79 (2160*) |
| >31 | 66 – 70 | 37xK26 | 18 | 1092 | 468 | 0,714 | 0,81 (1960*) 0,78 (2160*) |

- Temperature range of use: -50°C to +100°C
- Temperature range of use for option PPI: -50°C to +80°C
- Option PPI – only available for diameter ≥ 13mm
- Please add 1.0% on the weight for ropes with PPI
- Available in ordinary lay and Lang's lay
- Available in right hand and left hand

minimum breaking force

| nominal diameter | | weight | | 1960 N/mm ² | | | | 2160 N/mm ² | | | |
|------------------|-------|--------|-------|------------------------|------------|---------|--------------|------------------------|------------|-----------|--------------|
| mm | inch | kg/m | lb/ft | kN | t [metric] | lbs | t [2000 lbs] | kN | t [metric] | lbs | t [2000 lbs] |
| 12,70 | 1/2 | 0,77 | 0,52 | 148,0 | 15,09 | 33.272 | 16,64 | 155,9 | 15,90 | 35.048 | 17,52 |
| 13 | | 0,82 | 0,55 | 157,8 | 16,09 | 35.468 | 17,73 | 165,7 | 16,90 | 37.248 | 18,62 |
| 14 | | 0,95 | 0,64 | 183,3 | 18,69 | 41.198 | 20,60 | 192,5 | 19,63 | 43.266 | 21,63 |
| 15 | | 1,09 | 0,73 | 209,6 | 21,37 | 47.116 | 23,56 | 220,6 | 22,50 | 49.603 | 24,80 |
| 15,88 | 5/8 | 1,20 | 0,81 | 230,0 | 23,45 | 51.706 | 25,85 | 241,0 | 24,58 | 54.179 | 27,09 |
| 16 | | 1,25 | 0,84 | 239,4 | 24,41 | 53.820 | 26,91 | 251,4 | 25,64 | 56.521 | 28,26 |
| 17 | | 1,40 | 0,94 | 269,7 | 27,50 | 60.637 | 30,32 | 283,4 | 28,90 | 63.719 | 31,86 |
| 18 | | 1,57 | 1,06 | 302,5 | 30,85 | 68.015 | 34,01 | 317,7 | 32,40 | 71.428 | 35,71 |
| 19 | 3/4 | 1,76 | 1,18 | 338,9 | 34,55 | 76.180 | 38,09 | 355,9 | 36,29 | 80.002 | 40,00 |
| 20 | | 1,94 | 1,30 | 374,2 | 38,16 | 84.120 | 42,06 | 393,0 | 40,07 | 88.341 | 44,17 |
| 21 | | 2,13 | 1,43 | 412,2 | 42,03 | 92.659 | 46,33 | 432,9 | 44,14 | 97.309 | 48,65 |
| 22 | | 2,34 | 1,57 | 452,0 | 46,09 | 101.610 | 50,81 | 474,7 | 48,40 | 106.709 | 53,35 |
| 22,23 | 7/8 | 2,37 | 1,59 | 458,0 | 46,70 | 102.962 | 51,48 | 481,0 | 49,05 | 108.133 | 54,07 |
| 23 | | 2,56 | 1,72 | 494,8 | 50,46 | 111.236 | 55,62 | 519,6 | 52,99 | 116.818 | 58,41 |
| 24 | | 2,79 | 1,87 | 540,3 | 55,09 | 121.461 | 60,73 | 567,4 | 57,86 | 127.556 | 63,78 |
| 25 | | 3,04 | 2,04 | 587,1 | 59,87 | 131.985 | 65,99 | 616,6 | 62,87 | 138.608 | 69,30 |
| 25,40 | 1 | 3,08 | 2,07 | 595,4 | 60,71 | 133.851 | 66,93 | 625,3 | 63,76 | 140.573 | 70,29 |
| 26 | | 3,27 | 2,20 | 634,2 | 64,68 | 142.584 | 71,29 | 666,1 | 67,92 | 149.739 | 74,87 |
| 27 | | 3,54 | 2,38 | 683,6 | 69,70 | 153.670 | 76,84 | 717,9 | 73,20 | 161.382 | 80,69 |
| 28 | | 3,80 | 2,55 | 734,0 | 74,85 | 165.019 | 82,51 | 770,9 | 78,61 | 173.299 | 86,65 |
| 28,58 | 1 1/8 | 3,98 | 2,67 | 768,3 | 78,34 | 172.721 | 86,36 | 806,8 | 82,27 | 181.376 | 90,69 |
| 29 | | 4,07 | 2,73 | 790,0 | 80,56 | 177.599 | 88,80 | 824,4 | 84,07 | 185.335 | 92,67 |
| 30 | | 4,39 | 2,95 | 846,3 | 86,30 | 190.262 | 95,13 | 888,8 | 90,63 | 199.809 | 99,90 |
| 31,75 | 1 1/4 | 4,84 | 3,25 | 930,0 | 94,83 | 209.072 | 104,54 | 975,0 | 99,42 | 219.189 | 109,59 |
| 32 | | 4,98 | 3,34 | 959,6 | 97,85 | 215.730 | 107,87 | 1.007,8 | 102,76 | 226.556 | 113,28 |
| 34 | | 5,59 | 3,75 | 1.079,3 | 110,06 | 242.645 | 121,32 | 1.133,0 | 115,53 | 254.710 | 127,35 |
| 34,93 | 1 3/8 | 5,94 | 3,99 | 1.146,8 | 116,94 | 257.811 | 128,91 | 1.202,0 | 122,57 | 270.220 | 135,11 |
| 36 | | 6,31 | 4,24 | 1.221,5 | 124,56 | 274.607 | 137,30 | 1.282,8 | 130,81 | 288.386 | 144,19 |
| 38 | 1 1/2 | 7,01 | 4,71 | 1.352,4 | 137,90 | 304.026 | 152,01 | 1.418,4 | 144,64 | 318.869 | 159,43 |
| 40 | | 7,74 | 5,20 | 1.495,0 | 152,45 | 336.094 | 168,05 | 1.569,0 | 159,99 | 352.724 | 176,36 |
| 41,28 | 1 5/8 | 8,30 | 5,58 | 1.602,1 | 163,37 | 360.166 | 180,08 | 1.682,5 | 171,57 | 378.241 | 189,12 |
| 42 | | 8,52 | 5,72 | 1.645,2 | 167,76 | 369.850 | 184,92 | 1.730,0 | 176,41 | 388.913 | 194,46 |
| 44 | | 9,37 | 6,30 | 1.818,6 | 185,45 | 408.839 | 204,42 | 1.909,9 | 194,75 | 429.354 | 214,68 |
| 44,45 | 1 3/4 | 9,51 | 6,39 | 1.838,6 | 187,49 | 413.334 | 206,67 | 1.928,2 | 196,62 | 433.477 | 216,74 |
| 46 | | 10,33 | 6,94 | 1.995,7 | 203,50 | 448.651 | 224,33 | 2.095,8 | 213,72 | 471.165 | 235,58 |
| 47,63 | 1 7/8 | 10,86 | 7,29 | 2.095,0 | 213,63 | 470.975 | 235,49 | 2.190,0 | 223,32 | 492.331 | 246,17 |
| 48 | | 11,32 | 7,61 | 2.184,3 | 222,74 | 491.048 | 245,52 | 2.293,9 | 233,91 | 515.689 | 257,84 |
| 50 | | 12,03 | 8,09 | 2.331,7 | 237,77 | 524.194 | 262,10 | 2.451,2 | 249,95 | 551.042 | 275,52 |
| 50,80 | 2 | 12,42 | 8,34 | 2.400,1 | 244,74 | 539.564 | 269,78 | 2.517,1 | 256,67 | 565.866 | 282,93 |
| 52 | | 13,17 | 8,85 | 2.548,8 | 259,90 | 572.988 | 286,49 | 2.676,4 | 272,91 | 601.670 | 300,84 |
| 54 | 2 1/8 | 14,34 | 9,63 | 2.731,2 | 278,51 | 614.007 | 307,00 | 2.868,3 | 292,48 | 644.818 | 322,41 |
| 56 | | 15,33 | 10,30 | 2.854,0 | 291,03 | 641.605 | 320,80 | 3.049,0 | 310,91 | 685.442 | 342,72 |
| 57,15 | 2 1/4 | 16,07 | 10,80 | 3.017,0 | 307,65 | 678.248 | 339,12 | 3.180,0 | 324,27 | 714.892 | 357,45 |
| 58 | | 16,49 | 11,08 | 3.071,0 | 313,15 | 690.388 | 345,19 | 3.261,0 | 332,53 | 733.102 | 366,55 |
| 60 | | 17,78 | 11,95 | 3.293,0 | 335,79 | 740.296 | 370,15 | 3.500,0 | 356,90 | 786.831 | 393,42 |
| 60,33 | 2 3/8 | 17,78 | 11,94 | 3.335,0 | 340,08 | 749.738 | 374,87 | 3.520,0 | 358,94 | 791.327 | 395,66 |
| 62 | | 18,74 | 12,59 | 3.500,0 | 356,90 | 786.831 | 393,42 | 3.705,0 | 377,80 | 832.917 | 416,46 |
| 63,50 | 2 1/2 | 19,66 | 13,21 | 3.655,0 | 372,71 | 821.677 | 410,84 | 3.870,0 | 394,63 | 870.010 | 435,01 |
| 64 | | 20,20 | 13,57 | 3.894,0 | 397,08 | 875.406 | 437,70 | 4.018,0 | 409,72 | 903.282 | 451,64 |
| 66 | | 21,19 | 14,24 | 3.900,0 | 397,69 | 876.755 | 438,38 | 4.135,0 | 421,65 | 929.585 | 464,79 |
| 66,68 | 2 5/8 | 21,34 | 14,34 | 3.910,0 | 398,71 | 879.003 | 439,50 | 4.150,0 | 423,18 | 932.957 | 466,48 |
| 68 | | 22,26 | 14,96 | 4.100,0 | 418,08 | 921.716 | 460,86 | 4.354,0 | 443,98 | 978.818 | 489,41 |
| 70 | 2 3/4 | 23,78 | 15,98 | 4.322,0 | 440,72 | 971.624 | 485,81 | 4.646,0 | 473,76 | 1.044.462 | 522,23 |

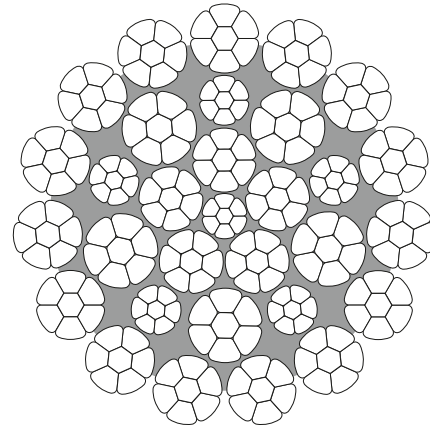
NAVIGATION

// ROTATION-RESISTANT
 NR Maxipact (Option PPI)
NR15 Maxilift (Option PPI)
 Towerlift 15
 LT 24 K
 LT 24 C

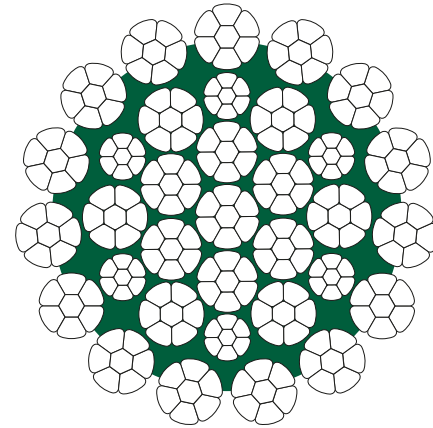
// SEMI-ROTATION-RESISTANT

// NON-ROTATION-RESISTANT

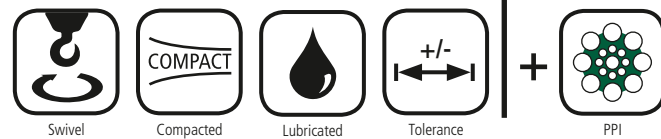
OLIVEIRA
NR15 MAXILIFT



OLIVEIRA
NR15 MAXILIFT PPI



PROPERTIES



APPLICATIONS

For all the most severe hoist applications, intensive use, corrosive environment... Traditional applications like mobile cranes, tower cranes, crawler cranes.

Offshore cranes, deck cranes, cargo cranes, foundation cranes (Kelly cranes), harbor cranes.

OVERVIEW

| RCN | Diameter range [mm] | Construction | Number of outer strands | Number of wires | Number of outer load bearing wires | Average fill factor | Average spin factor |
|------|---------------------|--------------|-------------------------|-----------------|------------------------------------|---------------------|---------------------|
| 23-2 | 10 – 28,58 | 31xK7 | 15 | 217 | 105 | 0,701 | 0,85 (1960*) |
| 23-2 | 30 – 50,80 | 34xK7 | 15 | 238 | 105 | 0,705 | 0,81 (2160*) |

- Temperature range of use: -50°C to +100°C
- Temperature range of use for option PPI: -50°C to +80°C
- Option PPI – only available for diameter ≥ 13mm
- Please add 1.0% on the weight for ropes with PPI
- Available in ordinary lay and Lang’s lay
- Available in right hand and left hand

minimum breaking force

| nominal diameter | | weight | | 1960 N/mm ² | | | | 2160 N/mm ² | | | |
|------------------|-------|--------|-------|------------------------|------------|---------|--------------|------------------------|------------|---------|--------------|
| mm | inch | kg/m | lb/ft | kN | t [metric] | lbs | t [2000 lbs] | kN | t [metric] | lbs | t [2000 lbs] |
| 10 | | 0,48 | 0,32 | 92,2 | 9,40 | 20.727 | 10,36 | 96,9 | 9,88 | 21.784 | 10,89 |
| 11 | 7/16 | 0,56 | 0,38 | 108,4 | 11,05 | 24.365 | 12,18 | 113,9 | 11,61 | 25.604 | 12,80 |
| 12 | | 0,68 | 0,46 | 130,8 | 13,34 | 29.401 | 14,70 | 137,3 | 14,01 | 30.876 | 15,44 |
| 12,70 | 1/2 | 0,76 | 0,51 | 145,3 | 14,82 | 32.665 | 16,33 | 152,6 | 15,56 | 34.306 | 17,15 |
| 13 | | 0,79 | 0,53 | 152,4 | 15,54 | 34.257 | 17,13 | 160,0 | 16,32 | 35.976 | 17,99 |
| 14 | | 0,93 | 0,62 | 178,8 | 18,23 | 40.187 | 20,09 | 187,7 | 19,14 | 42.204 | 21,10 |
| 15 | | 1,08 | 0,72 | 206,3 | 21,03 | 46.367 | 23,18 | 216,6 | 22,09 | 48.694 | 24,35 |
| 15,88 | 5/8 | 1,19 | 0,80 | 229,0 | 23,35 | 51.481 | 25,74 | 240,0 | 24,47 | 53.954 | 26,98 |
| 16 | | 1,22 | 0,82 | 234,1 | 23,87 | 52.622 | 26,31 | 245,8 | 25,07 | 55.262 | 27,63 |
| 17 | | 1,38 | 0,93 | 265,4 | 27,06 | 59.663 | 29,83 | 278,7 | 28,42 | 62.657 | 31,33 |
| 18 | | 1,55 | 1,04 | 298,4 | 30,43 | 67.079 | 33,54 | 313,4 | 31,95 | 70.445 | 35,22 |
| 19 | 3/4 | 1,72 | 1,15 | 329,5 | 33,60 | 74.082 | 37,04 | 346,1 | 35,29 | 77.800 | 38,90 |
| 20 | | 1,92 | 1,29 | 370,0 | 37,73 | 83.183 | 41,59 | 388,6 | 39,62 | 87.358 | 43,68 |
| 21 | | 2,11 | 1,42 | 406,3 | 41,43 | 91.348 | 45,67 | 426,7 | 43,51 | 95.932 | 47,97 |
| 22 | | 2,31 | 1,55 | 446,3 | 45,51 | 100.337 | 50,17 | 468,7 | 47,80 | 105.372 | 52,69 |
| 22,23 | 7/8 | 2,35 | 1,58 | 454,7 | 46,37 | 102.221 | 51,11 | 477,5 | 48,69 | 107.346 | 53,67 |
| 23 | | 2,53 | 1,70 | 487,0 | 49,66 | 109.476 | 54,74 | 511,4 | 52,15 | 114.969 | 57,48 |
| 24 | | 2,76 | 1,85 | 531,5 | 54,19 | 119.476 | 59,74 | 558,1 | 56,91 | 125.471 | 62,74 |
| 25 | | 2,99 | 2,01 | 576,3 | 58,76 | 129.550 | 64,78 | 605,2 | 61,71 | 136.051 | 68,03 |
| 25,40 | 1 | 3,08 | 2,07 | 594,9 | 60,66 | 133.739 | 66,87 | 624,8 | 63,71 | 140.461 | 70,23 |
| 26 | | 3,22 | 2,17 | 624,1 | 63,64 | 140.300 | 70,15 | 655,4 | 66,83 | 147.340 | 73,67 |
| 27 | | 3,47 | 2,33 | 669,1 | 68,23 | 150.412 | 75,21 | 702,6 | 71,65 | 157.960 | 78,98 |
| 28 | | 3,73 | 2,50 | 721,0 | 73,53 | 162.097 | 81,05 | 757,2 | 77,22 | 170.231 | 85,12 |
| 28,58 | 1 1/8 | 3,92 | 2,63 | 756,2 | 77,11 | 170.000 | 85,00 | 794,1 | 80,98 | 178.521 | 89,26 |
| 30 | | 4,30 | 2,89 | 828,8 | 84,52 | 186.329 | 93,16 | 870,4 | 88,76 | 195.680 | 97,84 |
| 31,75 | 1 1/4 | 4,79 | 3,22 | 920,0 | 93,81 | 206.824 | 103,41 | 965,0 | 98,40 | 216.941 | 108,47 |
| 32 | | 4,84 | 3,25 | 935,5 | 95,39 | 210.300 | 105,15 | 982,4 | 100,18 | 220.852 | 110,43 |
| 34 | | 5,51 | 3,70 | 1.063,9 | 108,49 | 239.176 | 119,59 | 1.117,3 | 113,93 | 251.178 | 125,59 |
| 34,93 | 1 3/8 | 5,80 | 3,90 | 1.119,4 | 114,15 | 251.651 | 125,83 | 1.175,6 | 119,88 | 264.285 | 132,14 |
| 36 | | 6,24 | 4,19 | 1.202,5 | 122,62 | 270.337 | 135,17 | 1.262,9 | 128,78 | 283.902 | 141,95 |
| 38 | 1 1/2 | 6,91 | 4,64 | 1.330,8 | 135,70 | 299.176 | 149,59 | 1.397,6 | 142,51 | 314.189 | 157,09 |
| 40 | | 7,66 | 5,15 | 1.477,9 | 150,70 | 332.247 | 166,12 | 1.552,1 | 158,27 | 348.919 | 174,46 |
| 41,28 | 1 5/8 | 8,23 | 5,53 | 1.586,9 | 161,82 | 356.749 | 178,37 | 1.666,5 | 169,94 | 374.644 | 187,32 |
| 42 | | 8,49 | 5,71 | 1.644,2 | 167,66 | 369.625 | 184,81 | 1.726,7 | 176,07 | 388.173 | 194,09 |
| 44 | | 9,20 | 6,18 | 1.780,5 | 181,56 | 400.273 | 200,14 | 1.868,7 | 190,56 | 420.111 | 210,06 |
| 44,45 | 1 3/4 | 9,69 | 6,51 | 1.868,3 | 190,51 | 420.010 | 210,01 | 1.962,0 | 200,07 | 441.075 | 220,54 |
| 46 | | 10,13 | 6,81 | 1.949,4 | 198,78 | 438.239 | 219,12 | 2.047,2 | 208,76 | 460.230 | 230,12 |
| 47,63 | 1 7/8 | 10,78 | 7,24 | 2.078,0 | 211,90 | 467.153 | 233,58 | 2.180,0 | 222,30 | 490.083 | 245,04 |
| 48 | | 10,90 | 7,33 | 2.106,3 | 214,79 | 473.520 | 236,76 | 2.212,0 | 225,56 | 497.282 | 248,64 |
| 50 | | 12,02 | 8,08 | 2.314,9 | 236,05 | 520.412 | 260,21 | 2.431,1 | 247,90 | 546.526 | 273,26 |
| 50,80 | 2 | 12,29 | 8,26 | 2.372,2 | 241,90 | 533.292 | 266,65 | 2.491,3 | 254,04 | 560.066 | 280,03 |

Special constructions and diameters available - please contact us directly.

NAVIGATION

// ROTATION-RESISTANT

NR Maxipact (Option PPI)
NR15 Maxilift (Option PPI)

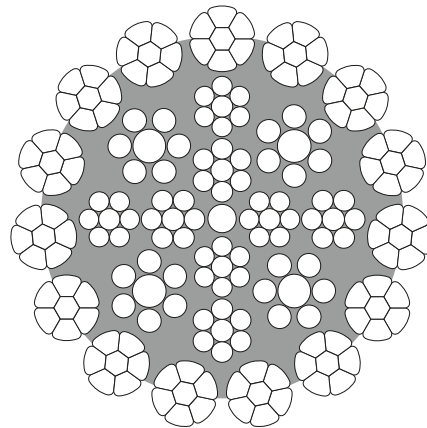
Towerlift 15

LT 24 K
LT 24 C

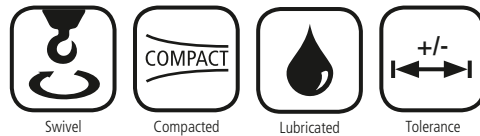
// SEMI-ROTATION-RESISTANT

// NON-ROTATION-RESISTANT

OLIVEIRA TOWERLIFT 15



PROPERTIES



APPLICATIONS

The Towerlift 15 can be used for all cranes and hoisting systems where non-rotating properties are required: Tower cranes, mobile cranes, crawler cranes, offshore cranes, cargo cranes...

OVERVIEW

| RCN | Diameter range [mm] | Construction | Number of outer strands | Number of wires | Number of outer load bearing wires | Average fill factor | Average spin factor |
|------|---------------------|--------------|-------------------------|-----------------|------------------------------------|---------------------|---------------------|
| 23-2 | 8 - 21 | 27x7 | 15 | 190 | 105 | 0,648 | 0,85 (1960*) |
| 23-2 | 22 - 50,80 | 31x7 | 15 | 217 | 105 | 0,660 | 0,81 (2160*) |

- Temperature range of use: -50°C to +100°C
- Available in ordinary lay and Lang's lay
- Available in right hand and left hand

| nominal diameter | | weight | | minimum breaking force | | | | | | | |
|------------------|-------|--------|-------|------------------------|------------|---------|--------------|------------------------|------------|---------|--------------|
| | | | | 1960 N/mm ² | | | | 2160 N/mm ² | | | |
| mm | inch | kg/m | lb/ft | kN | t [metric] | lbs | t [2000 lbs] | kN | t [metric] | lbs | t [2000 lbs] |
| 8 | 5/16 | 0,27 | 0,18 | 51,6 | 5,26 | 11.600 | 5,80 | 53,5 | 5,46 | 12.027 | 6,01 |
| 9 | | 0,35 | 0,24 | 64,3 | 6,56 | 14.455 | 7,23 | 67,5 | 6,88 | 15.175 | 7,59 |
| 9,53 | 3/8 | 0,40 | 0,27 | 76,3 | 7,78 | 17.153 | 8,58 | 80,0 | 8,16 | 17.985 | 8,99 |
| 10 | | 0,43 | 0,29 | 83,7 | 8,54 | 18.817 | 9,41 | 87,8 | 8,95 | 19.738 | 9,87 |
| 11 | 7/16 | 0,53 | 0,36 | 101,5 | 10,35 | 22.818 | 11,41 | 106,4 | 10,85 | 23.920 | 11,96 |
| 12 | | 0,62 | 0,42 | 120,8 | 12,32 | 27.157 | 13,58 | 126,6 | 12,91 | 28.461 | 14,23 |
| 12,70 | 1/2 | 0,73 | 0,49 | 137,0 | 13,97 | 30.799 | 15,40 | 144,0 | 14,68 | 32.372 | 16,19 |
| 13 | | 0,75 | 0,50 | 142,4 | 14,52 | 32.013 | 16,01 | 149,3 | 15,22 | 33.564 | 16,78 |
| 14 | | 0,85 | 0,57 | 164,7 | 16,79 | 37.026 | 18,51 | 172,7 | 17,61 | 38.824 | 19,41 |
| 15 | | 1,01 | 0,68 | 193,4 | 19,72 | 43.478 | 21,74 | 202,8 | 20,68 | 45.591 | 22,80 |
| 15,88 | 5/8 | 1,13 | 0,76 | 213,0 | 21,72 | 47.884 | 23,94 | 222,0 | 22,64 | 49.908 | 24,95 |
| 16 | | 1,14 | 0,77 | 218,9 | 22,32 | 49.211 | 24,61 | 229,6 | 23,41 | 51.616 | 25,81 |
| 17 | | 1,28 | 0,86 | 247,7 | 25,26 | 55.685 | 27,84 | 259,8 | 26,49 | 58.405 | 29,20 |
| 18 | | 1,44 | 0,97 | 277,4 | 28,29 | 62.362 | 31,18 | 290,9 | 29,66 | 65.397 | 32,70 |
| 19 | 3/4 | 1,61 | 1,08 | 310,2 | 31,63 | 69.736 | 34,87 | 325,4 | 33,18 | 73.153 | 36,58 |
| 20 | | 1,80 | 1,21 | 339,6 | 34,63 | 76.345 | 38,17 | 356,2 | 36,32 | 80.077 | 40,04 |
| 21 | | 1,96 | 1,31 | 377,2 | 38,46 | 84.798 | 42,40 | 395,6 | 40,34 | 88.934 | 44,47 |
| 22 | | 2,19 | 1,47 | 421,4 | 42,97 | 94.734 | 47,37 | 441,9 | 45,06 | 99.343 | 49,67 |
| 22,23 | 7/8 | 2,26 | 1,52 | 435,0 | 44,36 | 97.792 | 48,90 | 455,0 | 46,40 | 102.288 | 51,14 |
| 23 | | 2,38 | 1,60 | 459,8 | 46,89 | 103.367 | 51,68 | 482,2 | 49,17 | 108.403 | 54,20 |
| 24 | | 2,58 | 1,74 | 496,9 | 50,67 | 111.708 | 55,85 | 521,2 | 53,15 | 117.170 | 58,59 |
| 25 | | 2,80 | 1,88 | 540,9 | 55,16 | 121.599 | 60,80 | 567,2 | 57,84 | 127.512 | 63,76 |
| 25,40 | 1 | 2,92 | 1,96 | 560,0 | 57,10 | 125.893 | 62,95 | 590,0 | 60,16 | 132.637 | 66,32 |
| 26 | | 2,99 | 2,01 | 578,0 | 58,94 | 129.940 | 64,97 | 606,2 | 61,82 | 136.279 | 68,14 |
| 27 | | 3,29 | 2,21 | 634,6 | 64,71 | 142.664 | 71,33 | 665,5 | 67,86 | 149.610 | 74,81 |
| 28 | | 3,54 | 2,38 | 684,6 | 69,81 | 153.904 | 76,95 | 717,9 | 73,21 | 161.390 | 80,70 |
| 28,58 | 1 1/8 | 3,69 | 2,48 | 710,0 | 72,40 | 159.614 | 79,81 | 744,0 | 75,87 | 167.258 | 83,63 |
| 30 | | 4,05 | 2,72 | 782,1 | 79,75 | 175.823 | 87,91 | 820,3 | 83,65 | 184.411 | 92,21 |
| 31,75 | 1 1/4 | 4,53 | 3,04 | 870,0 | 88,72 | 195.584 | 97,79 | 913,0 | 93,10 | 205.251 | 102,63 |
| 32 | | 4,54 | 3,05 | 877,8 | 89,51 | 197.337 | 98,67 | 920,6 | 93,88 | 206.959 | 103,48 |
| 34 | | 5,21 | 3,50 | 1.009,3 | 102,92 | 226.900 | 113,45 | 1.058,5 | 107,94 | 237.960 | 118,98 |
| 34,93 | 1 3/8 | 5,54 | 3,73 | 1.060,0 | 108,09 | 238.297 | 119,15 | 1.112,0 | 113,39 | 249.987 | 124,99 |
| 36 | | 5,82 | 3,91 | 1.124,9 | 114,71 | 252.888 | 126,44 | 1.179,8 | 120,31 | 265.230 | 132,61 |
| 38 | 1 1/2 | 6,40 | 4,30 | 1.240,9 | 126,54 | 278.965 | 139,48 | 1.301,4 | 132,71 | 292.566 | 146,28 |
| 40 | | 7,14 | 4,80 | 1.371,3 | 139,83 | 308.280 | 154,14 | 1.438,2 | 146,66 | 323.320 | 161,66 |
| 41,28 | 1 5/8 | 7,70 | 5,17 | 1.483,0 | 151,22 | 333.392 | 166,70 | 1.555,0 | 158,57 | 349.578 | 174,79 |
| 42 | | 7,83 | 5,26 | 1.503,9 | 153,36 | 338.090 | 169,05 | 1.577,2 | 160,83 | 354.569 | 177,28 |
| 43 | | 8,29 | 5,57 | 1.611,8 | 164,36 | 362.347 | 181,17 | 1.690,3 | 172,36 | 379.994 | 190,00 |
| 44 | | 8,64 | 5,80 | 1.678,0 | 171,11 | 377.229 | 188,61 | 1.759,8 | 179,45 | 395.619 | 197,81 |
| 44,45 | 1 3/4 | 8,92 | 5,99 | 1.719,0 | 175,29 | 386.446 | 193,22 | 1.802,0 | 183,75 | 405.106 | 202,55 |
| 45 | | 9,09 | 6,11 | 1.749,4 | 178,39 | 393.281 | 196,64 | 1.834,6 | 187,08 | 412.434 | 206,22 |
| 46 | | 9,47 | 6,36 | 1.820,3 | 185,62 | 409.220 | 204,61 | 1.909,0 | 194,66 | 429.160 | 214,58 |
| 47,63 | 1 7/8 | 10,18 | 6,84 | 1.964,0 | 200,27 | 441.525 | 220,76 | 2.060,0 | 210,06 | 463.106 | 231,55 |
| 48 | | 10,28 | 6,91 | 1.985,4 | 202,45 | 446.336 | 223,17 | 2.082,2 | 212,33 | 468.097 | 234,05 |
| 50 | | 11,22 | 7,54 | 2.176,9 | 221,98 | 489.386 | 244,69 | 2.283,0 | 232,80 | 513.239 | 256,62 |
| 50,80 | 2 | 11,65 | 7,83 | 2.230,0 | 227,40 | 501.324 | 250,66 | 2.300,0 | 234,53 | 517.060 | 258,53 |

NAVIGATION

// ROTATION-RESISTANT

NR Maxipact (Option PPI)
NR15 Maxilift (Option PPI)
Towerlift 15

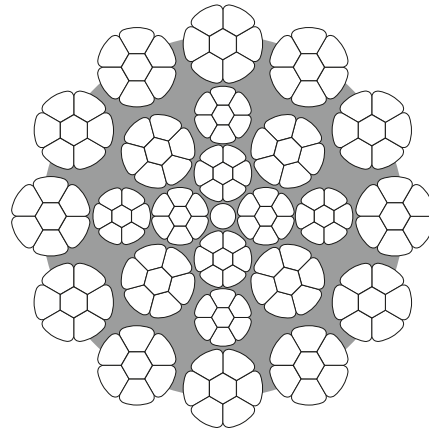
LT 24 K

LT 24 C

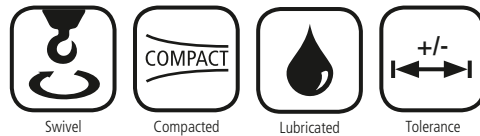
// SEMI-ROTATION-RESISTANT

// NON-ROTATION-RESISTANT

OLIVEIRA LT 24 K



PROPERTIES



APPLICATIONS

Recommended for intensive use and severe hoist applications where rotation resistance property is required like e.g. tower cranes. For lifting applications with not less than 2 falls.

OVERVIEW

| RCN | Diameter range [mm] | Construction | Number of outer strands | Number of wires | Number of outer load bearing wires | Average fill factor | Average spin factor |
|------|---------------------|--------------|-------------------------|-----------------|------------------------------------|---------------------|---------------------|
| 23-1 | 7,20 – 20 | 24xK7 | 12 | 169 | 84 | 0,683 | *N/mm ² |
| 25 | 21 – 48 | 24xK17 | 12 | 289 | 204 | 0,694 | 0,84 (1960*) |

- Temperature range of use: -50°C to +100°C
- Available in Lang's lay
- Available in right hand and left hand

| nominal diameter | | weight | | minimum breaking force | | | |
|------------------|-------|--------|-------|------------------------|------------|---------|--------------|
| | | | | 1960 N/mm ² | | | |
| mm | inch | kg/m | lb/ft | kN | t [metric] | lbs | t [2000 lbs] |
| 7,20 | | 0,23 | 0,15 | 43,7 | 4,46 | 9.824 | 4,91 |
| 8 | 5/16 | 0,28 | 0,19 | 55,1 | 5,62 | 12.387 | 6,19 |
| 9 | | 0,36 | 0,24 | 69,6 | 7,10 | 15.647 | 7,82 |
| 9,53 | 3/8 | 0,40 | 0,27 | 77,3 | 7,88 | 17.378 | 8,69 |
| 10 | | 0,46 | 0,31 | 88,2 | 8,99 | 19.828 | 9,91 |
| 11 | 7/16 | 0,56 | 0,38 | 107,6 | 10,97 | 24.189 | 12,09 |
| 12 | | 0,67 | 0,45 | 128,0 | 13,05 | 28.776 | 14,39 |
| 12,70 | 1/2 | 0,75 | 0,50 | 142,3 | 14,51 | 31.990 | 16,00 |
| 13 | | 0,78 | 0,52 | 149,1 | 15,20 | 33.519 | 16,76 |
| 14 | | 0,91 | 0,61 | 174,1 | 17,75 | 39.139 | 19,57 |
| 15 | | 1,05 | 0,71 | 198,0 | 20,19 | 44.512 | 22,26 |
| 15,88 | 5/8 | 1,17 | 0,78 | 222,5 | 22,69 | 50.020 | 25,01 |
| 16 | | 1,20 | 0,81 | 229,6 | 23,41 | 51.616 | 25,81 |
| 17 | | 1,34 | 0,90 | 255,5 | 26,05 | 57.439 | 28,72 |
| 18 | | 1,51 | 1,01 | 294,1 | 29,99 | 66.116 | 33,06 |
| 19 | 3/4 | 1,69 | 1,14 | 323,5 | 32,99 | 72.726 | 36,36 |
| 20 | | 1,88 | 1,27 | 353,7 | 36,07 | 79.515 | 39,76 |
| 21 | | 2,10 | 1,41 | 401,9 | 40,99 | 90.360 | 45,18 |
| 22 | | 2,28 | 1,53 | 432,7 | 44,12 | 97.275 | 48,64 |
| 22,23 | 7/8 | 2,29 | 1,54 | 436,0 | 44,46 | 98.017 | 49,01 |
| 24 | | 2,75 | 1,85 | 526,2 | 53,66 | 118.294 | 59,15 |
| 25,40 | 1 | 3,08 | 2,07 | 575,0 | 58,63 | 129.265 | 64,63 |
| 26 | | 3,20 | 2,15 | 610,0 | 62,20 | 137.133 | 68,57 |
| 28 | | 3,71 | 2,50 | 705,7 | 71,96 | 158.648 | 79,32 |
| 28,58 | 1 1/8 | 3,89 | 2,61 | 743,8 | 75,85 | 167.213 | 83,61 |
| 30 | | 4,24 | 2,85 | 807,8 | 82,37 | 181.601 | 90,80 |
| 31,75 | 1 1/4 | 4,70 | 3,16 | 910,0 | 92,79 | 204.576 | 102,29 |
| 32 | | 4,80 | 3,23 | 934,6 | 95,30 | 210.106 | 105,05 |
| 34 | | 5,48 | 3,68 | 1.047,0 | 106,76 | 235.375 | 117,69 |
| 34,93 | 1 3/8 | 5,77 | 3,87 | 1.090,0 | 111,15 | 245.042 | 122,52 |
| 35 | | 5,78 | 3,89 | 1.108,9 | 113,08 | 249.291 | 124,65 |
| 36 | | 6,13 | 4,12 | 1.165,3 | 118,83 | 261.970 | 130,98 |
| 38 | 1 1/2 | 6,78 | 4,55 | 1.295,0 | 132,05 | 291.128 | 145,56 |
| 40 | | 7,64 | 5,14 | 1.429,2 | 145,74 | 321.308 | 160,65 |
| 41 | | 8,04 | 5,40 | 1.498,0 | 152,76 | 336.770 | 168,38 |
| 41,28 | 1 5/8 | 8,08 | 5,43 | 1.503,0 | 153,26 | 337.888 | 168,94 |
| 42 | | 8,37 | 5,62 | 1.572,6 | 160,37 | 353.544 | 176,77 |
| 44 | | 9,17 | 6,16 | 1.713,6 | 174,74 | 385.241 | 192,62 |
| 44,45 | 1 3/4 | 9,40 | 6,32 | 1.765,6 | 180,04 | 396.923 | 198,46 |
| 46 | | 9,95 | 6,69 | 1.861,7 | 189,84 | 418.527 | 209,26 |
| 47,63 | 1 7/8 | 10,61 | 7,13 | 1.990,0 | 202,92 | 447.370 | 223,68 |
| 48 | | 10,94 | 7,35 | 2.054,6 | 209,51 | 461.895 | 230,95 |

NAVIGATION

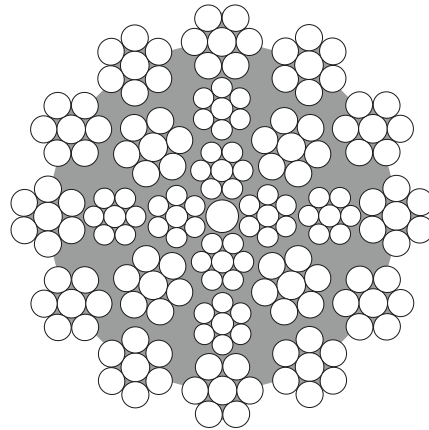
// ROTATION-RESISTANT

NR Maxipact (Option PPI)
NR15 Maxilift (Option PPI)
Towerlift 15
LT 24 K
LT 24 C

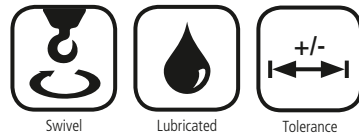
// SEMI-ROTATION-RESISTANT

// NON-ROTATION-RESISTANT

OLIVEIRA LT 24 C



PROPERTIES



APPLICATIONS

All lifting applications when MBL is not critical, and when rotation resistant properties only are required. For lifting applications with not less than 2 falls.

OVERVIEW

| RCN | Diameter range [mm] | Construction | Number of outer strands | Number of wires | Number of outer load bearing wires | Average fill factor | Average spin factor |
|------|---------------------|--------------|-------------------------|-----------------|------------------------------------|---------------------|------------------------------|
| 23-1 | 7,20 – 25,40 | 24x7 | 12 | 169 | 84 | 0,629 | 0,83 (1960*) 0,81 (2160*) |

- Temperature range of use: -50°C to +100°C
- Available in ordinary lay and Lang's lay
- Available in right hand and left hand

| nominal diameter | | weight | | minimum breaking force | | | | | | | |
|------------------|------|--------|-------|------------------------|------------|---------|--------------|------------------------|------------|---------|--------------|
| | | | | 1960 N/mm ² | | | | 2160 N/mm ² | | | |
| mm | inch | kg/m | lb/ft | kN | t [metric] | lbs | t [2000 lbs] | kN | t [metric] | lbs | t [2000 lbs] |
| 7,20 | | 0,21 | 0,14 | 39,5 | 4,03 | 8.889 | 4,44 | 42,5 | 4,34 | 9.560 | 4,78 |
| 8 | 5/16 | 0,27 | 0,18 | 50,1 | 5,11 | 11.261 | 5,63 | 53,9 | 5,49 | 12.111 | 6,06 |
| 9 | | 0,33 | 0,22 | 62,7 | 6,39 | 14.092 | 7,05 | 67,4 | 6,87 | 15.156 | 7,58 |
| 9,53 | 3/8 | 0,37 | 0,25 | 69,3 | 7,06 | 15.568 | 7,78 | 74,5 | 7,59 | 16.742 | 8,37 |
| 10 | | 0,43 | 0,29 | 80,5 | 8,21 | 18.097 | 9,05 | 87,4 | 8,91 | 19.651 | 9,83 |
| 11 | 7/16 | 0,53 | 0,35 | 98,8 | 10,07 | 22.202 | 11,10 | 106,2 | 10,83 | 23.877 | 11,94 |
| 12 | | 0,61 | 0,41 | 115,8 | 11,81 | 26.036 | 13,02 | 124,6 | 12,70 | 28.001 | 14,00 |
| 12,70 | 1/2 | 0,69 | 0,46 | 129,0 | 13,15 | 29.000 | 14,50 | 138,8 | 14,15 | 31.203 | 15,60 |
| 13 | | 0,73 | 0,49 | 136,3 | 13,90 | 30.652 | 15,33 | 146,6 | 14,95 | 32.966 | 16,48 |
| 14 | | 0,83 | 0,56 | 155,5 | 15,86 | 34.963 | 17,48 | 167,3 | 17,06 | 37.602 | 18,80 |
| 15 | | 0,96 | 0,64 | 180,0 | 18,35 | 40.456 | 20,23 | 193,5 | 19,74 | 43.510 | 21,75 |
| 15,88 | 5/8 | 1,10 | 0,74 | 205,0 | 20,90 | 46.086 | 23,04 | 220,0 | 22,43 | 49.458 | 24,73 |
| 16 | | 1,11 | 0,74 | 207,3 | 21,14 | 46.603 | 23,30 | 222,9 | 22,73 | 50.121 | 25,06 |
| 17 | | 1,23 | 0,83 | 232,0 | 23,65 | 52.145 | 26,07 | 249,5 | 25,44 | 56.081 | 28,04 |
| 18 | | 1,39 | 0,93 | 259,7 | 26,48 | 58.382 | 29,19 | 279,3 | 28,48 | 62.789 | 31,39 |
| 19 | 3/4 | 1,56 | 1,05 | 293,2 | 29,89 | 65.907 | 32,95 | 315,3 | 32,15 | 70.882 | 35,44 |
| 20 | | 1,72 | 1,15 | 322,4 | 32,87 | 72.470 | 36,24 | 346,7 | 35,35 | 77.941 | 38,97 |
| 22 | | 2,06 | 1,38 | 386,1 | 39,37 | 86.797 | 43,40 | 415,2 | 42,34 | 93.349 | 46,67 |
| 22,23 | 7/8 | 2,13 | 1,43 | 395,0 | 40,28 | 88.800 | 44,40 | 422,0 | 43,03 | 94.869 | 47,43 |
| 24 | | 2,45 | 1,65 | 460,2 | 46,93 | 103.459 | 51,73 | 494,9 | 50,47 | 111.269 | 55,63 |
| 25,40 | 1 | 2,76 | 1,85 | 518,8 | 52,90 | 116.631 | 58,32 | 557,9 | 56,89 | 125.421 | 62,71 |

Special constructions and diameters available - please contact us directly.



SEMI-ROTATION-RESISTANT ROPES

- Designed to generate only small levels of torque and rotation when loaded.
- Designed without any rope core.
- The outer strands have an extremely long lay length and therefore almost no tendency to start to rotate under load.

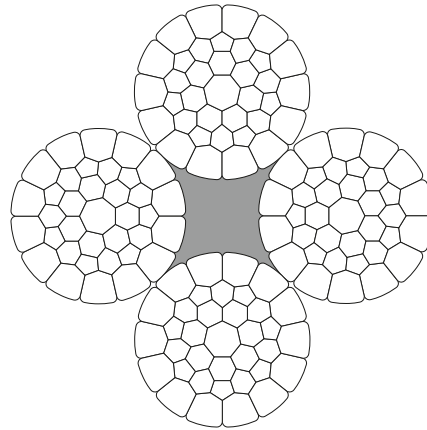
NAVIGATION

// ROTATION-RESISTANT

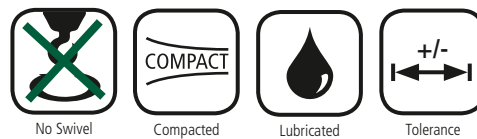
// SEMI-ROTATION-RESISTANT
DC 4 K

// NON-ROTATION-RESISTANT

OLIVEIRA DC 4 K



PROPERTIES



APPLICATIONS

Semi-rotation resistant hoist rope for deck crane applications and for electrical hoists with twin-hoist system and greater lifting height.

OVERVIEW

| RCN | Diameter range [mm] | Construction | Number of outer strands | Number of wires | Number of outer load bearing wires | Average fill factor | Average spin factor |
|-----|---------------------|--------------|-------------------------|-----------------|------------------------------------|---------------------|------------------------------------|
| 22 | 30 – 36 | 4xK36-CF | 4 | 144 | 56 | 0,669 | 0,811 (1960 N/mm ²) |

- Temperature range of use: -50°C to +100°C
- Tensile strength: 1960 N/mm²
- Available in ordinary lay
- Available in right hand

| nominal diameter | | weight | | minimum breaking force | | | | | | | |
|------------------|-------|--------|-------|------------------------|------------|---------|--------------|------------------------|------------|---------|--------------|
| | | | | 1960 N/mm ² | | | | 2160 N/mm ² | | | |
| mm | inch | kg/m | lb/ft | kN | t [metric] | lbs | t [2000 lbs] | kN | t [metric] | lbs | t [2000 lbs] |
| 30 | | 4,00 | 2,69 | 791,4 | 80,7 | 177.918 | 89,0 | 831,8 | 84,8 | 186.995 | 93,5 |
| 31,75 | 1 1/4 | 4,48 | 3,01 | 884,5 | 90,2 | 198.843 | 99,4 | 923,7 | 94,2 | 207.656 | 103,8 |
| 32 | | 4,55 | 3,06 | 896,6 | 91,4 | 201.568 | 100,8 | 942,4 | 96,1 | 211.852 | 105,9 |
| 34 | | 4,98 | 3,34 | 1.015 | 103,5 | 228.181 | 114,1 | 1.050 | 107,0 | 235.948 | 118,0 |
| 34,93 | 1 3/8 | 5,33 | 3,58 | 1.069 | 109,0 | 240.321 | 120,2 | 1.113 | 113,5 | 250.212 | 125,1 |
| 36 | | 5,73 | 3,85 | 1.133 | 115,5 | 254.708 | 127,4 | 1.187 | 121,1 | 266.939 | 133,5 |



NON-ROTATION-RESISTANT ROPES

- Generate high levels of torque and rotation when loaded. Due to that the non-rotation-resistant ropes (Rotational) must not be used with a swivel.
- Designed with at least two layers of strands laid helically around a center.
- The direction of lay of the outer strands being same to that of the underlying layer.

NAVIGATION

// ROTATION-RESISTANT

// SEMI-ROTATION-RESISTANT

// NON-ROTATION-RESISTANT

HD 8 K (Option PPI)

HD 9 K (Option PPI)

SC 6 K

SC 8 C (Option PPI)

DP 8 K (Option PPI)

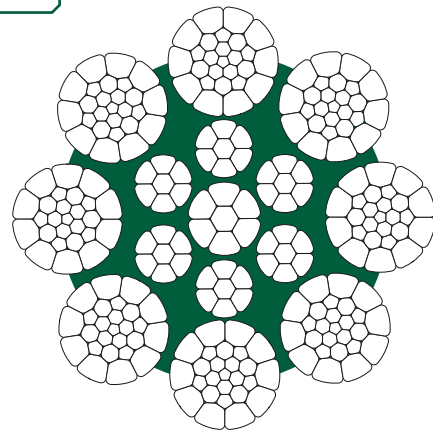
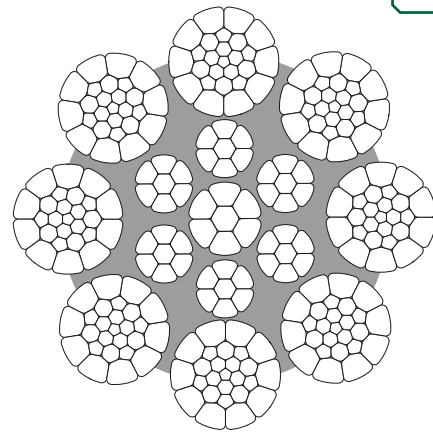
DP 10 K

LP 5

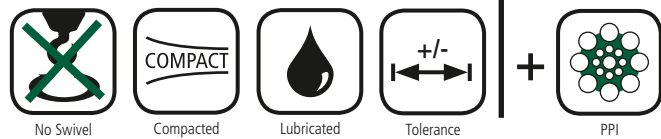
**OLIVEIRA
HD 8 K**

**OLIVEIRA
HD 8 K PPI**

**IMPROVED
DESIGN**



PROPERTIES



APPLICATIONS

When rotation resistant ropes are not required (twin hoist systems with right and left ropes, small heights). Hoist for steel mill cranes, container cranes, floating cranes and boom hoist for deck cranes, luffing and mobile cranes, grab cranes

OVERVIEW

| RCN | Diameter range [mm] | Construction | Number of outer strands | Number of wires | Number of outer load bearing wires | Average fill factor | Average spin factor |
|-----|---------------------|--------------|-------------------------|-----------------|------------------------------------|---------------------|------------------------------|
| 03 | 8 – 11 | 8xK12 | 8 | 145 | 96 | 0,672 | |
| 03 | 12 – 14 | 8xK17 | 8 | 185 | 136 | 0,675 | 0,85 (1770*) |
| 09 | 15 – 28,58 | 8xK26 | 8 | 257 | 208 | 0,677 | 0,85 (1960*) |
| 11 | 30 – 42 | 8xK31 | 8 | 297 | 248 | 0,673 | 0,82 (2160*) |
| 13 | 44 – 60 | 8xK36 | 8 | 407 | 288 | 0,683 | |
| 13 | 62 – 64 | 8xK36 | 8 | 475 | 288 | 0,671 | 0,84 (1770*) |
| >13 | 66 – 72 | 8xK41 | 8 | 515 | 328 | 0,666 | 0,83 (1960*) 0,81 (2160*) |

- Temperature range of use: -50°C to +100°C
- Temperature range of use for option PPI: -50°C to +80°C
- Option PPI – only available for diameter ≥ 13mm
- Please add 1.5% on the weight for ropes with PPI
- Available in ordinary lay and Lang’s lay
- Available in right hand and left hand

| nominal diameter | weight | minimum breaking force | | | | | | | | | | | | | |
|------------------|--------|------------------------|-------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|-----------|--------|
| | | 1770 N/mm² | | 1960 N/mm² | | 2160 N/mm² | | | | | | | | | |
| mm | inch | kg/m | lb/ft | kN t [metric] | lbs t [2000 lbs] | kN t [metric] | lbs t [2000 lbs] | kN t [metric] | lbs t [2000 lbs] | kN t [metric] | lbs t [2000 lbs] | kN t [metric] | lbs t [2000 lbs] | | |
| 8 | 5/16 | 0,30 | 0,20 | 50,4 | 5,14 | 11.328 | 5,66 | 55,8 | 5,69 | 12.544 | 6,27 | 57,7 | 5,88 | 12.971 | 6,49 |
| 9 | | 0,37 | 0,25 | 63,3 | 6,46 | 14.235 | 7,12 | 70,1 | 7,15 | 15.763 | 7,88 | 73,6 | 7,50 | 16.535 | 8,27 |
| 9,53 | 3/8 | 0,39 | 0,26 | 66,8 | 6,81 | 15.016 | 7,51 | 74,0 | 7,54 | 16.627 | 8,31 | 79,6 | 8,12 | 17.899 | 8,95 |
| 10 | | 0,46 | 0,31 | 78,3 | 7,98 | 17.600 | 8,80 | 86,7 | 8,84 | 19.489 | 9,74 | 92,4 | 9,42 | 20.772 | 10,39 |
| 11 | 7/16 | 0,57 | 0,38 | 96,7 | 9,86 | 21.732 | 10,87 | 107,0 | 10,92 | 24.064 | 12,03 | 112,0 | 11,42 | 25.179 | 12,59 |
| 12 | | 0,65 | 0,44 | 115,1 | 11,74 | 25.876 | 12,94 | 126,4 | 12,89 | 28.415 | 14,21 | 132,6 | 13,52 | 29.800 | 14,90 |
| 12,70 | 1/2 | 0,71 | 0,48 | 124,4 | 12,69 | 27.966 | 13,98 | 138,0 | 14,07 | 31.015 | 15,51 | 144,7 | 14,76 | 32.530 | 16,26 |
| 13 | | 0,77 | 0,52 | 136,6 | 13,93 | 30.709 | 15,35 | 149,0 | 15,19 | 33.491 | 16,75 | 156,2 | 15,93 | 35.123 | 17,56 |
| 14 | | 0,90 | 0,61 | 157,9 | 16,10 | 35.497 | 17,75 | 174,8 | 17,82 | 39.297 | 19,65 | 187,0 | 19,07 | 42.039 | 21,02 |
| 15 | | 1,03 | 0,69 | 180,0 | 18,35 | 40.466 | 20,23 | 202,7 | 20,67 | 45.569 | 22,78 | 214,0 | 21,82 | 48.109 | 24,05 |
| 15,88 | 5/8 | 1,15 | 0,77 | 200,0 | 20,39 | 44.962 | 22,48 | 220,0 | 22,43 | 49.458 | 24,73 | 235,0 | 23,96 | 52.830 | 26,42 |
| 16 | | 1,16 | 0,78 | 204,0 | 20,80 | 45.861 | 22,93 | 229,4 | 23,39 | 51.571 | 25,79 | 242,4 | 24,72 | 54.494 | 27,25 |
| 18 | | 1,49 | 1,00 | 260,2 | 26,53 | 58.495 | 29,25 | 288,2 | 29,39 | 64.790 | 32,39 | 307,0 | 31,31 | 69.016 | 34,51 |
| 19 | 3/4 | 1,64 | 1,10 | 292,1 | 29,79 | 65.667 | 32,83 | 323,5 | 32,99 | 72.726 | 36,36 | 342,0 | 34,87 | 76.885 | 38,44 |
| 20 | | 1,84 | 1,23 | 321,0 | 32,73 | 72.164 | 36,08 | 355,5 | 36,25 | 79.920 | 39,96 | 379,0 | 38,65 | 85.203 | 42,60 |
| 22 | | 2,21 | 1,49 | 391,7 | 39,94 | 88.058 | 44,03 | 433,7 | 44,23 | 97.500 | 48,75 | 458,5 | 46,75 | 103.075 | 51,54 |
| 22,23 | 7/8 | 2,26 | 1,52 | 394,9 | 40,27 | 88.784 | 44,39 | 435,0 | 44,36 | 97.792 | 48,90 | 462,0 | 47,11 | 103.862 | 51,93 |
| 24 | | 2,63 | 1,77 | 464,5 | 47,37 | 104.424 | 52,21 | 514,3 | 52,44 | 115.619 | 57,81 | 556,0 | 56,70 | 124.994 | 62,50 |
| 25 | | 2,86 | 1,92 | 504,2 | 51,41 | 113.349 | 56,67 | 558,2 | 56,92 | 125.488 | 62,74 | 602,0 | 61,39 | 135.335 | 67,67 |
| 25,40 | 1 | 2,94 | 1,98 | 519,0 | 52,92 | 116.676 | 58,34 | 572,0 | 58,33 | 128.591 | 64,30 | 611,0 | 62,30 | 137.358 | 68,68 |
| 26 | | 3,11 | 2,09 | 548,9 | 55,97 | 123.398 | 61,70 | 607,8 | 61,98 | 136.639 | 68,32 | 655,0 | 66,79 | 147.250 | 73,62 |
| 28 | | 3,57 | 2,40 | 629,6 | 64,20 | 141.540 | 70,77 | 697,3 | 71,10 | 156.759 | 78,38 | 748,0 | 76,27 | 168.157 | 84,08 |
| 28,58 | 1 1/8 | 3,67 | 2,46 | 638,0 | 65,06 | 143.428 | 71,71 | 707,0 | 72,09 | 158.940 | 79,47 | 751,0 | 76,58 | 168.831 | 84,42 |
| 30 | | 4,12 | 2,77 | 727,1 | 74,14 | 163.459 | 81,73 | 803,0 | 81,88 | 180.522 | 90,26 | 864,0 | 88,10 | 194.235 | 97,12 |
| 31,75 | 1 1/4 | 4,59 | 3,09 | 812,0 | 82,80 | 182.545 | 91,27 | 895,0 | 91,26 | 201.204 | 100,60 | 951,0 | 96,98 | 213.793 | 106,90 |
| 32 | | 4,67 | 3,14 | 828,0 | 84,43 | 186.142 | 93,07 | 911,0 | 92,90 | 204.801 | 102,40 | 968,0 | 98,71 | 217.615 | 108,81 |
| 34 | | 5,29 | 3,56 | 936,4 | 95,49 | 210.511 | 105,26 | 1.024,9 | 104,51 | 230.407 | 115,20 | 1.091,0 | 111,25 | 245.267 | 122,63 |
| 34,93 | 1 3/8 | 5,51 | 3,70 | 954,0 | 97,28 | 214.468 | 107,23 | 1.057,0 | 107,78 | 237.623 | 118,81 | 1.109,0 | 113,09 | 249.313 | 124,66 |
| 36 | | 5,84 | 3,93 | 1.040,1 | 106,06 | 233.824 | 116,91 | 1.150,0 | 117,27 | 258.530 | 129,27 | 1.217,0 | 124,10 | 273.592 | 136,80 |
| 38 | 1 1/2 | 6,58 | 4,42 | 1.159,3 | 118,22 | 260.621 | 130,31 | 1.270,6 | 129,56 | 285.634 | 142,82 | 1.332,5 | 135,88 | 299.553 | 149,78 |
| 40 | | 7,30 | 4,90 | 1.285,5 | 131,08 | 288.992 | 144,50 | 1.409,8 | 143,76 | 316.946 | 158,47 | 1.478,6 | 150,77 | 332.392 | 166,20 |
| 41,28 | 1 5/8 | 7,47 | 5,02 | 1.305,0 | 133,07 | 293.370 | 146,69 | 1.464,3 | 149,32 | 329.183 | 164,59 | 1.535,6 | 156,59 | 345.226 | 172,61 |
| 42 | | 7,98 | 5,36 | 1.403,6 | 143,13 | 315.542 | 157,77 | 1.538,4 | 156,87 | 345.835 | 172,92 | 1.613,3 | 164,51 | 362.688 | 181,34 |
| 44 | | 9,00 | 6,05 | 1.554,3 | 158,49 | 349.420 | 174,71 | 1.735,6 | 176,98 | 390.183 | 195,09 | 1.820,2 | 185,61 | 409.198 | 204,60 |
| 44,45 | 1 3/4 | 9,06 | 6,09 | 1.572,2 | 160,32 | 353.456 | 176,73 | 1.743,4 | 177,78 | 391.939 | 195,97 | 1.828,4 | 186,44 | 411.038 | 205,52 |
| 46 | | 9,78 | 6,57 | 1.713,0 | 174,68 | 385.098 | 192,55 | 1.883,2 | 192,03 | 423.356 | 211,68 | 1.975,0 | 201,39 | 443.987 | 221,99 |
| 47,63 | 1 7/8 | 10,40 | 6,99 | 1.774,0 | 180,90 | 398.811 | 199,41 | 1.964,0 | 200,27 | 441.525 | 220,76 | 2.112,0 | 215,36 | 474.796 | 237,40 |
| 48 | | 10,61 | 7,13 | 1.858,8 | 189,54 | 417.875 | 208,94 | 2.055,3 | 209,58 | 462.054 | 231,03 | 2.155,5 | 219,80 | 484.571 | 242,29 |
| 50 | | 11,62 | 7,81 | 1.986,0 | 202,52 | 446.470 | 223,24 | 2.252,9 | 229,73 | 506.469 | 253,23 | 2.362,7 | 240,93 | 531.150 | 265,57 |
| 50,80 | 2 | 11,87 | 7,98 | 2.044,7 | 208,50 | 459.657 | 229,83 | 2.283,4 | 232,84 | 513.324 | 256,66 | 2.394,7 | 244,19 | 538.341 | 269,17 |
| 52 | | 12,51 | 8,41 | 2.147,0 | 218,93 | 482.665 | 241,33 | 2.426,9 | 247,48 | 545.594 | 272,80 | 2.545,2 | 259,54 | 572.182 | 286,09 |
| 54 | 2 1/8 | 13,49 | 9,07 | 2.316,2 | 236,19 | 520.702 | 260,35 | 2.607,0 | 265,84 | 586.073 | 293,04 | 2.734,0 | 278,79 | 614.633 | 307,32 |
| 56 | | 14,59 | 9,80 | 2.480,1 | 252,90 | 557.549 | 278,77 | 2.805,0 | 286,03 | 630.588 | 315,29 | 2.941,7 | 299,97 | 661.318 | 330,66 |
| 57,15 | 2 1/4 | 14,92 | 10,03 | 2.572,9 | 262,36 | 578.412 | 289,21 | 2.849,1 | 290,53 | 640.502 | 320,25 | 3.027,7 | 308,74 | 680.650 | 340,33 |
| 58 | | 15,69 | 10,55 | 2.649,5 | 270,17 | 595.631 | 297,82 | 3.020,9 | 308,04 | 679.120 | 339,56 | 3.168,1 | 323,06 | 712.215 | 356,11 |
| 60 | | 16,71 | 11,23 | 2.842,4 | 289,84 | 638.997 | 319,50 | 3.224,0 | 328,75 | 724.776 | 362,39 | 3.381,1 | 344,77 | 760.096 | 380,05 |
| 60,33 | 2 3/8 | 16,71 | 11,23 | 2.844,0 | 290,01 | 639.357 | 319,68 | 3.225,0 | 328,86 | 725.009 | 362,50 | 3.383,0 | 344,97 | 760.529 | 380,26 |
| 62 | | 17,45 | 11,73 | 2.969,0 | 302,75 | 667.458 | 333,73 | 3.280,0 | 334,47 | 737.373 | 368,69 | 3.528,0 | 359,76 | 793.126 | 396,56 |
| 63,50 | 2 1/2 | 18,17 | 12,21 | 3.092,0 | 315,30 | 695.109 | 347,55 | 3.485,0 | 355,37 | 783.459 | 391,73 | 3.682,0 | 375,46 | 827.746 | 413,87 |
| 64 | | 18,66 | 12,54 | 3.200,0 | 326,31 | 719.388 | 359,69 | 3.589,0 | 365,98 | 806.839 | 403,42 | 3.764,0 | 383,82 | 846.181 | 423,09 |
| 66 | | 19,67 | 13,22 | 3.389,0 | 345,58 | 761.877 | 380,94 | 3.708,0 | 378,11 | 833.591 | 416,80 | 3.988,0 | 406,66 | 896.538 | 448,27 |
| 66,68 | 2 5/8 | 19,94 | 13,40 | 3.440,0 | 350,78 | 773.343 | 386,67 | 3.760,0 | 383,41 | 845.281 | 422,64 | 4.050,0 | 412,99 | 910.476 | 455,24 |
| 68 | | 20,81 | 13,98 | 3.585,0 | 365,57 | 805.940 | 402,97 | 3.924,0 | 400,14 | 882.150 | 441,08 | 4.220,0 | 430,32 | 948.694 | 474,35 |
| 70 | 2 3/4 | 21,69 | 14,57 | 3.778,0 | 385,24 | 849.319 | 424,66 | 4.133,7 | 421,52 | 929.292 | 464,65 | 4.445,7 | 453,34 | 999.440 | 499,72 |
| 72 | | 23,26 | 15,63 | 4.012,7 | 409,18 | 902.096 | 451,05 | 4.390,6 | 447,71 | 987.039 | 493,52 | 4.722,0 | 481,51 | 1.061.547 | 530,77 |

Special constructions and diameters available - please contact us directly.

NAVIGATION

// ROTATION-RESISTANT

// SEMI-ROTATION-RESISTANT

// NON-ROTATION-RESISTANT

HD 8 K (Option PPI)

HD 9 K (Option PPI)

SC 6 K

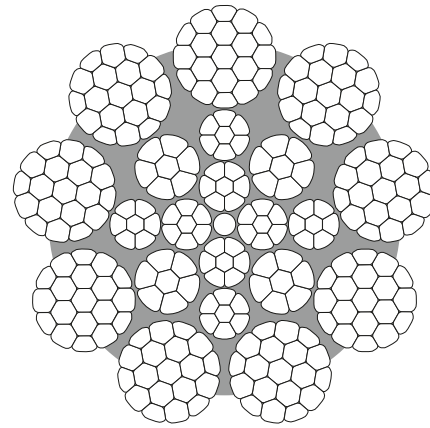
SC 8 C (Option PPI)

DP 8 K (Option PPI)

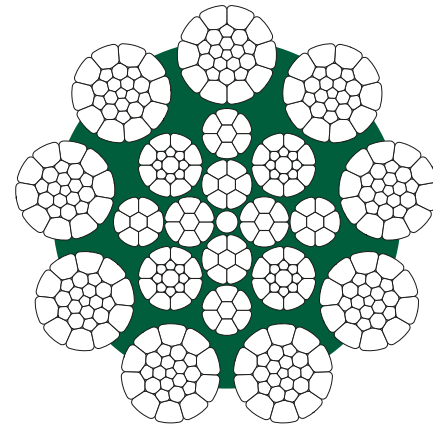
DP 10 K

LP 5

OLIVEIRA HD 9 K



OLIVEIRA HD 9 K PPI



PROPERTIES



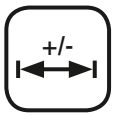
No Swivel



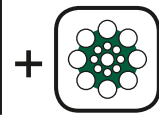
Compacted



Lubricated



Tolerance



PPI

APPLICATIONS

Boom hoist for deck cranes, luffing for mobile and crawler, electric hoists, trolley for container cranes.

Recommended for all marine and offshore applications and all the most severe working environmental conditions.

OVERVIEW

| RCN | Diameter range [mm] | Construction | Number of outer strands | Number of wires | Number of outer load bearing wires | Average fill factor | Average spin factor |
|-----|---------------------|--------------|-------------------------|-----------------|------------------------------------|---------------------|---------------------|
| 06 | 9 – 12,70 | 9xK16* | 9 | 193 | 144 | 0,668 | |
| 07 | 13 – 19 | 9xK19* | 9 | 256 | 171 | 0,683 | 0,83 (1960*) |
| 10 | 20 – 28,60 | 9xK26 | 9 | 359 | 234 | 0,684 | 0,81 (2160*) |
| 12 | 30 – 38 | 9xK31 | 9 | 404 | 279 | 0,691 | |

- Temperature range of use: -50°C to +100°C
- Temperature range of use for option PPI: -50°C to +80°C
- Option PPI – only available for diameter ≥ 13mm
- Please add 1.5% on the weight for ropes with PPI
- Available in ordinary lay and Lang's lay
- Available in right hand and left hand

*The core strands are closed in the opposite lay than the outer strands, leading the HD 9 K (PPI) to have a reduced torque (lower than 6 or 8 strands ropes in generally) for a better stability of the sheave block.

| nominal diameter | | weight | | minimum breaking force | | | | | | | |
|------------------|-------|--------|-------|------------------------|------------|---------|--------------|------------------------|------------|---------|--------------|
| | | | | 1960 N/mm ² | | | | 2160 N/mm ² | | | |
| mm | inch | kg/m | lb/ft | kN | t [metric] | lbs | t [2000 lbs] | kN | t [metric] | lbs | t [2000 lbs] |
| 9 | | 0,37 | 0,25 | 69,5 | 7,09 | 15.624 | 7,81 | 74,9 | 7,64 | 16.838 | 8,42 |
| 9,53 | 3/8 | 0,40 | 0,27 | 75,0 | 7,65 | 16.861 | 8,43 | 80,6 | 8,22 | 18.120 | 9,06 |
| 10 | | 0,46 | 0,31 | 86,0 | 8,77 | 19.334 | 9,67 | 92,2 | 9,40 | 20.727 | 10,36 |
| 11 | 7/16 | 0,55 | 0,37 | 103,5 | 10,55 | 23.268 | 11,63 | 111,4 | 11,36 | 25.044 | 12,52 |
| 12 | | 0,65 | 0,44 | 122,3 | 12,47 | 27.494 | 13,75 | 131,5 | 13,41 | 29.562 | 14,78 |
| 12,70 | 1/2 | 0,73 | 0,49 | 137,3 | 14,00 | 30.866 | 15,43 | 147,5 | 15,04 | 33.159 | 16,58 |
| 13 | | 0,79 | 0,53 | 148,0 | 15,09 | 33.272 | 16,64 | 159,1 | 16,22 | 35.767 | 17,88 |
| 14 | | 0,90 | 0,60 | 168,4 | 17,17 | 37.858 | 18,93 | 181,3 | 18,49 | 40.758 | 20,38 |
| 15 | | 1,05 | 0,71 | 197,5 | 20,14 | 44.400 | 22,20 | 212,7 | 21,69 | 47.817 | 23,91 |
| 15,88 | 5/8 | 1,19 | 0,80 | 220,0 | 22,43 | 49.458 | 24,73 | 237,0 | 24,17 | 53.280 | 26,64 |
| 16 | | 1,19 | 0,80 | 223,0 | 22,74 | 50.132 | 25,07 | 240,0 | 24,47 | 53.954 | 26,98 |
| 18 | | 1,49 | 1,00 | 280,0 | 28,55 | 62.946 | 31,47 | 301,4 | 30,73 | 67.757 | 33,88 |
| 19 | 3/4 | 1,70 | 1,14 | 318,0 | 32,43 | 71.489 | 35,74 | 342,8 | 34,96 | 77.064 | 38,53 |
| 20 | | 1,86 | 1,25 | 348,7 | 35,56 | 78.401 | 39,20 | 375,1 | 38,25 | 84.319 | 42,16 |
| 22 | | 2,25 | 1,51 | 422,8 | 43,11 | 95.041 | 47,52 | 454,7 | 46,36 | 102.215 | 51,11 |
| 22,23 | 7/8 | 2,27 | 1,52 | 425,0 | 43,34 | 95.544 | 47,77 | 456,0 | 46,50 | 102.513 | 51,26 |
| 24 | | 2,69 | 1,81 | 505,0 | 51,50 | 113.532 | 56,77 | 543,1 | 55,38 | 122.102 | 61,05 |
| 25 | | 2,91 | 1,95 | 546,2 | 55,70 | 122.797 | 61,40 | 587,5 | 59,90 | 132.067 | 66,03 |
| 25,40 | 1 | 3,00 | 2,01 | 562,4 | 57,35 | 126.433 | 63,22 | 604,9 | 61,68 | 135.987 | 67,99 |
| 26 | | 3,16 | 2,13 | 592,8 | 60,45 | 133.268 | 66,63 | 637,6 | 65,01 | 143.327 | 71,66 |
| 28 | | 3,64 | 2,45 | 682,7 | 69,61 | 153.473 | 76,74 | 734,2 | 74,87 | 165.058 | 82,53 |
| 28,60 | 1 1/8 | 3,82 | 2,57 | 717,5 | 73,16 | 161.300 | 80,65 | 771,7 | 78,69 | 173.485 | 86,74 |
| 30 | | 4,21 | 2,83 | 807,1 | 82,30 | 181.449 | 90,72 | 847,6 | 86,43 | 190.554 | 95,28 |
| 31,75 | 1 1/4 | 4,67 | 3,14 | 870,0 | 88,72 | 195.584 | 97,79 | 938,0 | 95,65 | 210.871 | 105,44 |
| 32 | | 4,83 | 3,24 | 928,8 | 94,71 | 208.805 | 104,40 | 975,4 | 99,47 | 219.283 | 109,64 |
| 34 | | 5,47 | 3,68 | 1.049,8 | 107,05 | 236.006 | 118,00 | 1.102,5 | 112,42 | 247.849 | 123,92 |
| 34,93 | 1 3/8 | 5,73 | 3,85 | 1.077,0 | 109,82 | 242.119 | 121,06 | 1.150,0 | 117,27 | 258.530 | 129,27 |
| 35 | | 5,73 | 3,85 | 1.103,3 | 112,51 | 248.032 | 124,02 | 1.158,7 | 118,15 | 260.478 | 130,24 |
| 36 | | 6,12 | 4,11 | 1.172,8 | 119,59 | 263.650 | 131,83 | 1.231,6 | 125,59 | 276.880 | 138,44 |
| 38 | 1 1/2 | 6,79 | 4,56 | 1.306,7 | 133,24 | 293.748 | 146,87 | 1.372,2 | 139,93 | 308.489 | 154,24 |

Special constructions and diameters available - please contact us directly.

NAVIGATION

// ROTATION-RESISTANT

// SEMI-ROTATION-RESISTANT

// NON-ROTATION-RESISTANT

HD 8 K (Option PPI)
HD 9 K (Option PPI)

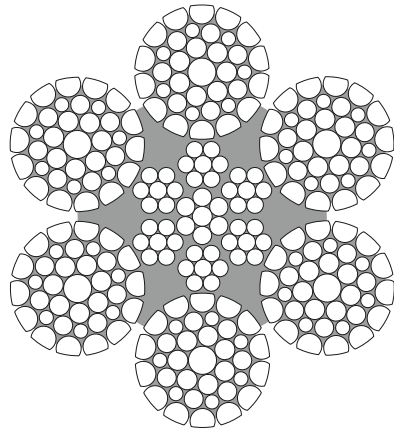
SC 6 K

SC 8 C (Option PPI)
DP 8 K (Option PPI)

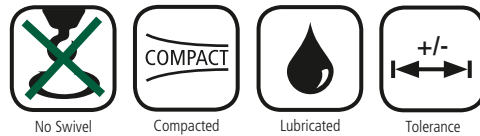
DP 10 K

LP 5

OLIVEIRA SC 6 K



PROPERTIES



APPLICATIONS

Can be used for all hoist and pulling applications when a higher MBL instead of 6 strands conventional ropes is required. Manufacturing of slings with a high MBL. Mainly used for logging (forest industry).

OVERVIEW

| RCN | Diameter range [mm] | Construction | Number of outer strands | Number of wires | Number of outer load bearing wires | Average fill factor | Average spin factor |
|-----|---------------------|--------------|-------------------------|-----------------|------------------------------------|---------------------|---------------------|
| 02 | 10 – 13 | 6xK19 | 6 | 163 | 114 | 0,666 | 0,86 (1960*) |
| 06 | 14 – 19 | 6xK26 | 6 | 205 | 156 | 0,663 | |
| 08 | 20 – 29 | 6xK31 | 6 | 235 | 186 | 0,675 | 0,84 (1960*) |
| 09 | 30 – 60 | 6xK36 | 6 | 265 | 216 | 0,675 | |

- Temperature range of use: -50°C to +100°C
- Available in ordinary lay and Lang's lay
- Available in right hand and left hand

| nominal diameter | | weight | | minimum breaking force | | | |
|------------------|-------|--------|-------|------------------------|------------|---------|--------------|
| | | | | 1960 N/mm ² | | | |
| mm | inch | kg/m | lb/ft | kN | t [metric] | lbs | t [2000 lbs] |
| 10 | | 0,44 | 0,30 | 87,7 | 8,94 | 19.716 | 9,86 |
| 11 | 7/16 | 0,54 | 0,37 | 107,0 | 10,91 | 24.055 | 12,03 |
| 12 | | 0,64 | 0,43 | 125,8 | 12,83 | 28.292 | 14,15 |
| 12,70 | 1/2 | 0,73 | 0,49 | 138,0 | 14,07 | 31.024 | 15,51 |
| 13 | | 0,77 | 0,52 | 150,1 | 15,31 | 33.744 | 16,87 |
| 14 | | 0,89 | 0,60 | 169,3 | 17,26 | 38.052 | 19,03 |
| 15 | | 1,00 | 0,67 | 190,9 | 19,47 | 42.916 | 21,46 |
| 15,88 | 5/8 | 1,11 | 0,74 | 209,0 | 21,31 | 46.985 | 23,49 |
| 16 | | 1,15 | 0,77 | 218,8 | 22,31 | 49.190 | 24,59 |
| 17 | | 1,31 | 0,88 | 250,5 | 25,54 | 56.315 | 28,16 |
| 18 | | 1,45 | 0,97 | 276,7 | 28,21 | 62.196 | 31,10 |
| 19 | 3/4 | 1,62 | 1,09 | 311,1 | 31,72 | 69.940 | 34,97 |
| 20 | | 1,78 | 1,20 | 344,8 | 35,16 | 77.509 | 38,75 |
| 22 | | 2,16 | 1,45 | 419,0 | 42,73 | 94.195 | 47,10 |
| 22,23 | 7/8 | 2,24 | 1,50 | 420,0 | 42,83 | 94.420 | 47,21 |
| 24 | | 2,61 | 1,76 | 504,3 | 51,42 | 113.371 | 56,69 |
| 25 | | 2,80 | 1,88 | 542,5 | 55,32 | 121.959 | 60,98 |
| 25,40 | 1 | 2,91 | 1,96 | 565,2 | 57,63 | 127.062 | 63,53 |
| 26 | | 3,09 | 2,07 | 598,2 | 61,00 | 134.481 | 67,24 |
| 28 | | 3,53 | 2,37 | 681,6 | 69,50 | 153.228 | 76,61 |
| 28,58 | 1 1/8 | 3,65 | 2,45 | 687,0 | 70,05 | 154.444 | 77,22 |
| 29 | | 3,81 | 2,56 | 737,7 | 75,22 | 165.842 | 82,92 |
| 30 | | 4,05 | 2,72 | 786,6 | 80,21 | 176.826 | 88,41 |
| 31,75 | 1 1/4 | 4,58 | 3,07 | 850,0 | 86,68 | 191.088 | 95,54 |
| 32 | | 4,61 | 3,09 | 890,9 | 90,84 | 200.276 | 100,14 |
| 34 | | 5,22 | 3,51 | 1.011,9 | 103,19 | 227.487 | 113,74 |
| 34,93 | 1 3/8 | 5,56 | 3,74 | 1.030,0 | 105,03 | 231.553 | 115,78 |
| 35 | | 5,56 | 3,74 | 1.076,4 | 109,76 | 241.984 | 120,99 |
| 36 | | 5,85 | 3,93 | 1.131,7 | 115,40 | 254.412 | 127,21 |
| 38 | 1 1/2 | 6,51 | 4,38 | 1.261,1 | 128,59 | 283.496 | 141,75 |
| 40 | | 7,23 | 4,86 | 1.401,7 | 142,94 | 315.118 | 157,56 |
| 41,28 | 1 5/8 | 7,77 | 5,22 | 1.450,0 | 147,86 | 325.973 | 162,99 |
| 42 | | 7,91 | 5,32 | 1.530,1 | 156,03 | 343.990 | 172,00 |
| 44 | | 8,80 | 5,91 | 1.701,5 | 173,50 | 382.512 | 191,26 |
| 44,45 | 1 3/4 | 8,96 | 6,02 | 1.710,0 | 174,37 | 384.423 | 192,21 |
| 46 | | 9,55 | 6,41 | 1.847,3 | 188,37 | 415.289 | 207,64 |
| 47,63 | 1 7/8 | 10,34 | 6,95 | 1.940,0 | 197,82 | 436.129 | 218,06 |
| 48 | | 10,40 | 6,99 | 2.012,2 | 205,18 | 452.350 | 226,17 |
| 50 | | 11,27 | 7,57 | 2.178,6 | 222,16 | 489.777 | 244,89 |
| 50,80 | 2 | 11,54 | 7,75 | 2.182,0 | 222,50 | 490.533 | 245,27 |
| 52 | | 12,24 | 8,23 | 2.364,1 | 241,07 | 531.466 | 265,73 |
| 54 | 2 1/8 | 12,97 | 8,71 | 2.460,0 | 250,85 | 553.030 | 276,51 |
| 56 | | 14,01 | 9,41 | 2.649,0 | 270,12 | 595.519 | 297,76 |
| 57,15 | 2 1/4 | 14,64 | 9,84 | 2.758,0 | 281,24 | 620.023 | 310,01 |
| 58 | | 15,01 | 10,09 | 2.840,0 | 289,60 | 638.457 | 319,23 |
| 60 | | 16,06 | 10,79 | 3.040,0 | 309,99 | 683.419 | 341,71 |

NAVIGATION

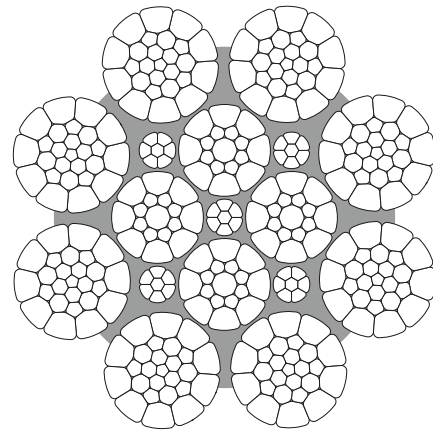
// ROTATION-RESISTANT

// SEMI-ROTATION-RESISTANT

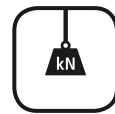
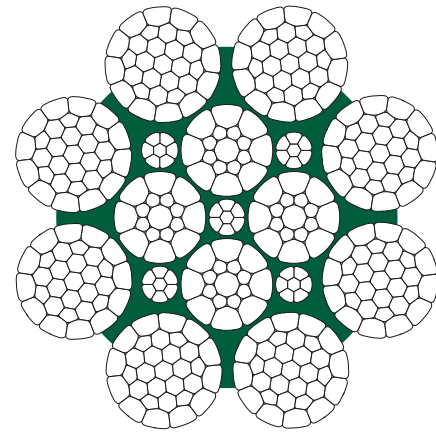
// NON-ROTATION-RESISTANT

HD 8 K (Option PPI)
 HD 9 K (Option PPI)
 SC 6 K
 SC 8 C (Option PPI)
DP 8 K (Option PPI)
 DP 10 K
 LP 5

OLIVEIRA DP 8 K

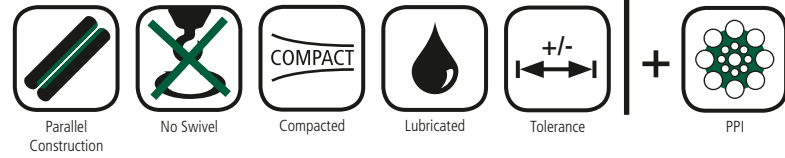


OLIVEIRA DP 8 K PPI



High breaking force

PROPERTIES



APPLICATIONS

When an extremely high MBL is required for a multipart reeving hoist system: electric hoists, twin hoists systems, boom hoist and pendant rope for mobile cranes, tower cranes and all marine equipments.

OVERVIEW

| RCN | Diameter range [mm] | Construction | Number of outer strands | Number of wires | Number of outer load bearing wires | Average fill factor | Average spin factor |
|-----|---------------------|--------------|-------------------------|-----------------|------------------------------------|---------------------|---------------------|
| 03 | 6,40 – 7,20 | 8xK12 | 8 | 105 | 96 | 0,701 | 0,86 (2160*) |
| 03 | 8 – 17 | 8xK17 | 8 | 239 | 136 | 0,710 | |
| 09 | 18 – 28,58 | 8xK26 | 8 | 311 | 208 | 0,712 | |
| 11 | 30 – 38 | 8xK31 | 8 | 351 | 248 | 0,721 | |

- Temperature range of use: -50°C to +100°C
- Temperature range of use for option PPI: -50°C to +80°C
- Option PPI – only available for diameter ≥ 13mm
- Please add 1.5% on the weight for ropes with PPI
- Available in ordinary lay and Lang's lay
- Available in right hand and left hand
- Fleet angle must be < 1° 30'

minimum breaking force

| nominal diameter | | weight | | 2160 N/mm ² | | | |
|------------------|-------|--------|-------|------------------------|------------|---------|--------------|
| mm | inch | kg/m | lb/ft | kN | t [metric] | lbs | t [2000 lbs] |
| 6,40 | | 0,19 | 0,13 | 41,4 | 4,22 | 9.307 | 4,65 |
| 7 | | 0,23 | 0,16 | 50,5 | 5,15 | 11.353 | 5,68 |
| 7,20 | | 0,25 | 0,16 | 53,2 | 5,42 | 11.960 | 5,98 |
| 8 | 5/16 | 0,30 | 0,20 | 64,1 | 6,54 | 14.410 | 7,21 |
| 8,50 | | 0,34 | 0,23 | 73,3 | 7,47 | 16.478 | 8,24 |
| 9 | | 0,39 | 0,26 | 82,3 | 8,39 | 18.502 | 9,25 |
| 9,53 | 3/8 | 0,43 | 0,29 | 92,2 | 9,40 | 20.727 | 10,36 |
| 10 | | 0,48 | 0,32 | 102,4 | 10,44 | 23.020 | 11,51 |
| 11 | 7/16 | 0,57 | 0,38 | 123,1 | 12,55 | 27.674 | 13,84 |
| 12 | | 0,68 | 0,46 | 147,3 | 15,02 | 33.114 | 16,56 |
| 12,70 | 1/2 | 0,76 | 0,51 | 159,0 | 16,21 | 35.745 | 17,87 |
| 13 | | 0,82 | 0,55 | 176,3 | 17,98 | 39.634 | 19,82 |
| 14 | | 0,93 | 0,63 | 202,6 | 20,66 | 45.546 | 22,77 |
| 15 | | 1,09 | 0,73 | 236,9 | 24,16 | 53.262 | 26,63 |
| 15,88 | 5/8 | 1,21 | 0,82 | 254,4 | 25,94 | 57.191 | 28,60 |
| 16 | | 1,22 | 0,82 | 263,9 | 26,91 | 59.325 | 29,66 |
| 17 | | 1,40 | 0,94 | 302,8 | 30,88 | 68.072 | 34,04 |
| 18 | | 1,54 | 1,04 | 335,3 | 34,19 | 75.374 | 37,69 |
| 19 | 3/4 | 1,73 | 1,16 | 375,8 | 38,32 | 84.491 | 42,25 |
| 20 | | 1,90 | 1,27 | 410,9 | 41,90 | 92.364 | 46,18 |
| 22 | | 2,31 | 1,55 | 500,8 | 51,07 | 112.584 | 56,29 |
| 22,23 | 7/8 | 2,35 | 1,58 | 503,0 | 51,29 | 113.079 | 56,54 |
| 24 | | 2,81 | 1,89 | 605,7 | 61,76 | 136.167 | 68,08 |
| 25,40 | 1 | 3,06 | 2,05 | 649,0 | 66,18 | 145.901 | 72,95 |
| 26 | | 3,23 | 2,17 | 701,1 | 71,49 | 157.618 | 78,81 |
| 28 | | 3,74 | 2,51 | 809,5 | 82,55 | 181.983 | 90,99 |
| 28,58 | 1 1/8 | 3,89 | 2,61 | 820,0 | 83,62 | 184.343 | 92,17 |
| 30 | | 4,34 | 2,92 | 942,1 | 96,06 | 211.782 | 105,89 |
| 31,75 | 1 1/4 | 4,85 | 3,26 | 1.023,0 | 104,32 | 229.980 | 114,99 |
| 32 | | 4,90 | 3,29 | 1.066,2 | 108,72 | 239.691 | 119,85 |
| 34 | | 5,62 | 3,77 | 1.220,3 | 124,44 | 274.334 | 137,17 |
| 34,93 | 1 3/8 | 5,84 | 3,93 | 1.231,0 | 125,53 | 276.740 | 138,37 |
| 36 | | 6,25 | 4,20 | 1.357,6 | 138,44 | 305.201 | 152,60 |
| 38 | 1 1/2 | 7,00 | 4,71 | 1.523,6 | 155,36 | 342.519 | 171,26 |

NAVIGATION

// ROTATION-RESISTANT

// SEMI-ROTATION-RESISTANT

// NON-ROTATION-RESISTANT

HD 8 K (Option PPI)

HD 9 K (Option PPI)

SC 6 K

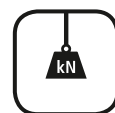
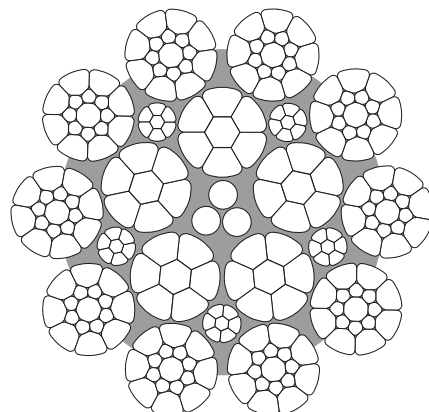
SC 8 C (Option PPI)

DP 8 K (Option PPI)

DP 10 K

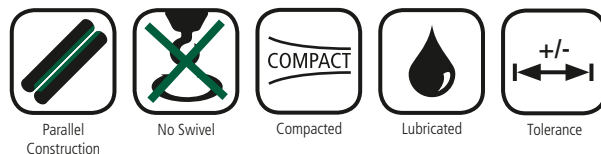
LP 5

OLIVEIRA DP 10 K



High breaking force

PROPERTIES



APPLICATIONS

When an extremely high MBL is required for a multipart reeving hoist system: electric hoists, twin hoist systems, boom hoist and pendant rope for mobile cranes, tower cranes and all marine equipment.

OVERVIEW

| RCN | Diameter range [mm] | Construction | Number of outer strands | Number of wires | Number of outer load bearing wires | Average fill factor | Average spin factor |
|-----|---------------------|--------------|-------------------------|-----------------|------------------------------------|---------------------|---------------------|
| 05 | 14 – 18 | 10xK17 | 10 | 243 | 170 | 0,750 | 0,85 (2160*) |

- Temperature range of use: -50°C to +100°C
- Available in ordinary lay and Lang's lay
- Available in right hand and left hand

| nominal diameter | | weight | | minimum breaking force | | | |
|------------------|------|--------|-------|------------------------|------------|--------|-------------|
| | | | | 2160 N/mm ² | | | |
| mm | inch | kg/m | lb/ft | kN | t [metric] | lbs | t[2000 lbs] |
| 14 | | 0,99 | 0,66 | 214,5 | 21,88 | 48.226 | 24,11 |
| 16 | | 1,29 | 0,87 | 279,9 | 28,54 | 62.919 | 31,46 |
| 18 | | 1,60 | 1,07 | 338,0 | 34,47 | 75.985 | 37,99 |

NAVIGATION

// ROTATION-RESISTANT

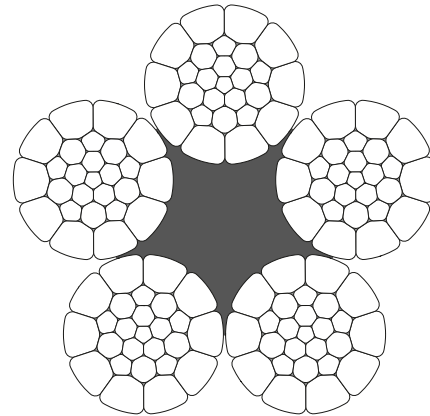
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// NON-ROTATION-RESISTANT

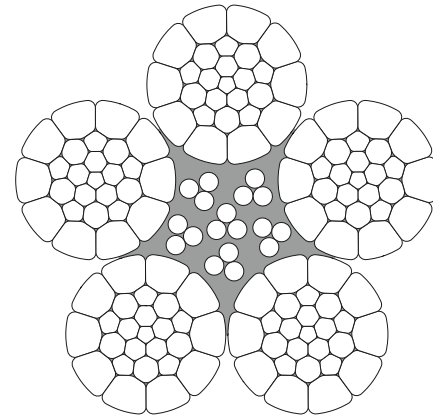
HD 8 K (Option PPI)
HD 9 K (Option PPI)
SC 6 K
SC 8 C (Option PPI)
DP 8 K (Option PPI)
DP 10 K

LP 5

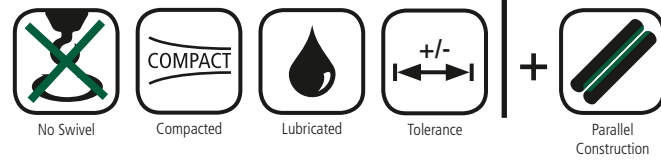
OLIVEIRA LP 5



OLIVEIRA LP 5



PROPERTIES



APPLICATIONS

Suspended gondolas and platforms.
Jaw pulling device.
Overhead cranes and electric hoists.
Wind mill hoists and forest winches.

OVERVIEW

| RCN | Diameter range [mm] | Construction | Number of outer strands | Number of wires | Number of outer load bearing wires | Average fill factor | Average spin factor |
|-----|---------------------|--------------|-------------------------|-----------------|------------------------------------|---------------------|---------------------|
| 02 | 6 | 5x K12-CWP | 5 | 78 | 60 | 0,633 | *N/mm ² |
| 03 | 8,30 – 10,30 | 5x K19-CF | 5 | 95 | 95 | 0,544 | 0,86 (1960*) |
| 05 | 11,50 – 14 | 5x K26-CF | 5 | 130 | 130 | 0,550 | 0,84 (2160*) |
| 06 | 16,3 | 5x K31-CF | 5 | 155 | 155 | 0,533 | |

- Temperature range of use: -50°C to +100°C
- Available in ordinary lay and Lang's lay
- Available in right hand and left hand

| nominal diameter | minimum breaking force | | | | | | | | | | | |
|------------------|------------------------|------|------------------------|-------|-------|------------|------------------------|--------------|-------|------------|--------|--------------|
| | weight | | 1960 N/mm ² | | | | 2160 N/mm ² | | | | | |
| | mm | inch | kg/m | lb/ft | kN | t [metric] | lbs | t [2000 lbs] | kN | t [metric] | lbs | t [2000 lbs] |
| 6 | | | 0,15 | 0,10 | 30,2 | 3,08 | 6.791 | 3,40 | 31,7 | 3,23 | 7.124 | 3,56 |
| 8,30 | | | 0,26 | 0,18 | | | | | 54,3 | 5,53 | 12.198 | 6,10 |
| 9 | | | 0,32 | 0,22 | | | | | 66,9 | 6,82 | 15.040 | 7,52 |
| 9,50 | | | 0,34 | 0,23 | | | | | 69,1 | 7,05 | 15.544 | 7,77 |
| 10,30 | | | 0,40 | 0,27 | | | | | 82,0 | 8,36 | 18.433 | 9,22 |
| 11,50 | | | 0,49 | 0,33 | 93,9 | 9,58 | 21.110 | 10,55 | | | | |
| 11,60 | | | 0,50 | 0,34 | 95,2 | 9,71 | 21.410 | 10,71 | | | | |
| 14 | | | 0,77 | 0,52 | | | | | 157,9 | 16,11 | 35.507 | 17,75 |
| 16,30 | | | 0,98 | 0,66 | 187,8 | 19,15 | 42.229 | 21,11 | | | | |

DISCARD CRITERIA

DISCARD CRITERIA ACCORDING TO ISO 4309:2010

Wire ropes should be visually inspected at frequent intervals by a competent person to make sure that the rope is in a safe condition and has not reached one of the following criteria:

- 1) Visible broken wires (see the following tables)
- 2) Reduction in rope diameter
- 3) Fracture of strands
- 4) Corrosion
- 5) Deformation and damage

SINGLE-LAYER AND PARALLEL-CLOSED ROPES

Number of visible broken wires for ropes working in steel sheaves.

NOTE: Ropes having outer strands of Seale construction where the number of wires in each strand is 19 or less (e.g. 6 × 19 Seale) are placed in this table two rows above that row in which the construction would normally be placed based on the number of load bearing wires in the outer layer of strands.

| | | Number of visible broken outer wires ²⁾ | | | | | |
|-----|---|---|------------------------------------|-----------------------------------|------------------------------------|---|------------------------------------|
| | | Rope working (single-layer drum) | | | | Rope spooling (multi-layer drum) ³⁾ | |
| | | Sections of rop working in steel sheaves and/or spooling on a single-layer drum | | | | Sections of rope spooling on a multi-layer drum | |
| | | Classes M1 to M4 or class unknown ⁴⁾ | | | | All classes | |
| | | Ordinary lay (sZ, zS) | | Lang lay (sS, zZ) | | Ordinary and Lang lay | |
| RCN | Number of load-bearing wires in the outer strands of the rope ¹⁾ n | Over a length of 6d ⁵⁾ | Over a length of 30d ⁵⁾ | Over a length of 6d ⁵⁾ | Over a length of 30d ⁵⁾ | Over a length of 6d ⁵⁾ | Over a length of 30d ⁵⁾ |
| 01 | n ≤ 50 | 2 | 4 | 1 | 2 | 4 | 8 |
| 02 | 51 ≤ n ≤ 75 | 3 | 6 | 2 | 3 | 6 | 12 |
| 03 | 76 ≤ n ≤ 100 | 4 | 8 | 2 | 4 | 8 | 16 |
| 04 | 101 ≤ n ≤ 120 | 5 | 10 | 2 | 5 | 10 | 20 |
| 05 | 121 ≤ n ≤ 140 | 6 | 11 | 3 | 6 | 12 | 22 |
| 06 | 141 ≤ n ≤ 160 | 6 | 13 | 3 | 6 | 12 | 26 |
| 07 | 161 ≤ n ≤ 180 | 7 | 14 | 4 | 7 | 14 | 28 |
| 08 | 181 ≤ n ≤ 200 | 8 | 16 | 4 | 8 | 16 | 32 |
| 09 | 201 ≤ n ≤ 220 | 9 | 18 | 4 | 9 | 18 | 36 |
| 10 | 221 ≤ n ≤ 240 | 10 | 19 | 5 | 10 | 20 | 38 |
| 11 | 241 ≤ n ≤ 260 | 10 | 21 | 5 | 10 | 20 | 42 |
| 12 | 261 ≤ n ≤ 280 | 11 | 22 | 6 | 11 | 22 | 44 |
| 13 | 281 ≤ n ≤ 300 | 12 | 24 | 6 | 12 | 24 | 48 |
| | n > 300 | 0,04 × n | 0,08 × n | 0,02 × n | 0,04 × n | 0,08 × n | 0,16 × n |

- 1) For the purposes of this International Standard, Filler wires are not regarded as load-bearing wires and are not included in the values of n.
- 2) A broken wire has two ends (counted as one wire).
- 3) The values apply to deterioration that occurs at the cross-over zones and interference between wraps due to fleet angle effects (and not to those sections of rope which only work in sheaves and do not spool on the drum).
- 4) Twice the number of broken wires listed may be applied to ropes on mechanisms whose classification is known to be M5 to M8.
- 5) d = nominal diameter of rope.

Classes M1 to M4 equates to mechanism group 1E_m to 1A_m | Classes M5 to M8 equates to mechanism group 2_m to 5_m
Please pay attention to the country- / application-specific standards.

ROTATION-RESISTANT ROPES

Number of visible broken wires for ropes working in steel sheaves.

NOTE: Ropes having outer strands of Seale construction where the number of wires in each strand is 19 or less (e.g. 18 × 19 Seale–WSC) are placed in this table two rows above that row in which the construction would normally be placed based on the number of wires in the outer layer of strands.

| | | Number of visible broken outer wires ²⁾ | | | |
|--------------------------|--|---|------------------------------------|---|------------------------------------|
| | | Rope working on a single-layer drum | | Rope spooling on a multi-layer drum ³⁾ | |
| | | Sections of rop working in steel sheaves and/or spooling on a single-layer drum | | Sections of rope spooling on a multi-layer drum | |
| | | Over a length of 6d ⁴⁾ | Over a length of 30d ⁴⁾ | Over a length of 6d ⁴⁾ | Over a length of 30d ⁴⁾ |
| RCN | Number of outer strands or number of load-bearing wires in the outer strands of the rope ¹⁾ n | | | | |
| 21 | 4 strands n ≤ 100 | 2 | 4 | 2 | 4 |
| 22 | 3 or 4 strands n ≥ 100 | 2 | 4 | 4 | 8 |
| 11 or more outer strands | | | | | |
| 23–1 | 71 ≤ n ≤ 100 | 2 | 4 | 4 | 8 |
| 23–2 | 101 ≤ n ≤ 120 | 3 | 5 | 5 | 10 |
| 23–3 | 121 ≤ n ≤ 140 | 3 | 5 | 6 | 11 |
| 24 | 141 ≤ n ≤ 160 | 3 | 6 | 6 | 13 |
| 25 | 161 ≤ n ≤ 180 | 4 | 7 | 7 | 14 |
| 26 | 181 ≤ n ≤ 200 | 4 | 8 | 8 | 16 |
| 27 | 201 ≤ n ≤ 220 | 4 | 9 | 9 | 18 |
| 28 | 221 ≤ n ≤ 240 | 5 | 10 | 10 | 19 |
| 29 | 241 ≤ n ≤ 260 | 5 | 10 | 10 | 21 |
| 30 | 261 ≤ n ≤ 280 | 6 | 11 | 11 | 22 |
| 31 | 281 ≤ n ≤ 300 | 6 | 12 | 12 | 24 |
| | n > 300 | 6 | 12 | 12 | 24 |

- 1) For the purposes of this International Standard, Filler wires are not regarded as load-bearing wires and are not included in the values of n.
- 2) A broken wire has two ends.
- 3) The values apply to deterioration that occurs at the cross-over zones and interference between wraps due to fleet angle effects (and not to those sections of rope that only work in sheaves and do not spool on the drum).
- 4) d = nominal diameter of rope.

Please pay attention to the country- / application-specific standards.

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