

| ROPE DIAMETER | MASS | | RCE |
|------------------|------|-----|--------|
| mm | Kg/m | kN | kgf |
| 8 | 0,09 | 14 | 1.440 |
| 10 | 0,15 | 23 | 2.350 |
| 12 | 0,21 | 33 | 3.340 |
| 14 | 0,29 | 47 | 4.570 |
| 16 | 0,41 | 65 | 6.640 |
| 18 | 0,50 | 79 | 8.100 |
| 20 | 0,59 | 94 | 9.570 |
| 22 | 0,79 | 126 | 12.800 |
| 24 | 0,92 | 146 | 14.900 |
| 26 | 1,14 | 183 | 18.600 |
| 28 | 1,29 | 206 | 21.000 |
| 30 | 1,50 | 239 | 24.400 |
| 32 | 1,73 | 277 | 28.300 |
| 34 | 1,92 | 308 | 31.400 |
| 36 | 2,20 | 352 | 35.900 |
| 38 | 2,50 | 401 | 40.900 |
| 40 | 2,76 | 443 | 45.100 |

FC AND IWRC

- A FLEXIBLE ROPE WITH VARIOUS APPLICATIONS SUCH AS IN FISHING, INDUSTRY, PLAYGROUNDS
- FISHING SELVEDGE ROPE, HEADLINE, FRAME LINES
- GOOD ABRASION, LONG LIFETIME, EASY HANDLING



| NOMINAL ROPE DIAMETER | APPROXIMATE MASS | MINIMUM BREAKING FORCE 1570 N/MM ² | |
|-----------------------------|---------------------|---|--------|
| mm | Kg/m | kN | kgf |
| 8 | 0,22 | 34 | 3.500 |
| 9 | 0,27 | 43 | 4.400 |
| 10 | 0,34 | 53 | 5.400 |
| 11 | 0,40 | 63 | 6.400 |
| 12 | 0,48 | 76 | 7.700 |
| 13 | 0,56 | 88 | 9.000 |
| 14 | 0,67 | 106 | 10.800 |
| 16 | 0,87 | 137 | 14.000 |
| 18 | 1,10 | 172 | 17.500 |
| 20 | 1,34 | 210 | 21.400 |
| 22 | 1.66 | 261 | 26,600 |

- ROPE TO BE USED IN SMALL TRAWLERS AND DOUBLE /
 TRIPLE RIGGED VESSELS (SHRIMPERS)
- THICK OUTER WIRES WITH GOOD LIFETIME
- HIGH STRENGTH ROPE



| ROPE DIAMETER | MASS | FOF 1770 N | RCE |
|------------------|------|---------------|--------|
| mm | Kg/m | kN | kgf |
| 14 | 0,60 | 92 | 9.300 |
| 16 | 0,81 | 123 | 12.600 |
| 18 | 1,06 | 160 | 16.300 |
| 19 | 1,16 | 175 | 17.900 |
| 20 | 1,33 | 201 | 20.500 |
| 22 | 1,51 | 229 | 23.300 |
| 24 | 1,83 | 278 | 28.300 |
| 25 | 2,05 | 310 | 31.600 |
| 26 | 2,18 | 331 | 33.800 |

- FLEXIBLE PURSE WIRE, VERY POPULAR ON SMALL AND MEDIUM PURSE SEINERS
- THICKER OUTERWIRES, COMPARED TO 6x 24s + 7cf
- VERY EASY TO HANDLE AND SPLICE
- DUAL TENSILE STRENGTH HIGHER MBL
- GOOD RESISTANCE AGAINST CRUSHING
- REDUCED WEAR ON SHEAVES AND GUIDING GEAR AND PURSE SEINE RINGS
- NO CONTACT BETWEEN THE WIRES IN THE STRANDS



WireCo^o WorldGroup

apcer | INet



FISHING WIRE ROPES





OLIVEIRA was established in 1825 and is the only Portuguese company producing steel wire ropes. We are a worldwide market leader for steel wire ropes, especially for fishing, lifting, cranes and elevation systems.

Our steel wire ropes are produced according to the most advanced technology, using always the best steel available. The fibre cores are produced at our own factory so that we can guarantee consistent quality. We have lubrication suitable for each kind of application.

OLIVEIRA has a quality assurance system according to ISO 9001/2008 and has been certified by APCER (Associação Portuguesa de Certificação, IQNET member).

All wire rope sold by **OLIVEIRA** can be provided with mill certificates. On request, certificates can be issued in accordance with Det Norske Veritas and Lloyd's Register of Shipping.

OLIVEIRA has a modern, fully equipped Research and Development Department which supports production and ensures that the optimum quality, for all products, is supplied to our customers.

We must point out the tradicional presence of **OLIVEIRA** in all important markets around the world.

In November 2010, WireCo WorldGroup acquired Oliveira Sá Group, leader in the production of wire and synthetic ropes. Being part of the WireCo Group, Oliveira Sá became an even stronger player in the market.





ZINCAL COMPACT®

ZINCAL COMPACT[®] is another very successful product manufactured by **OLIVEIRA SÁ**. It is a compacted wire rope with the construction 6x K26WS, manufactured both with steel or fiber core. **ZINCAL COMPACT**® has all the wires covered with a thick lay of zinc - aluminium alloy, which gives a higher corrosion resistance to the wire rope and an improved lifetime due to this special coating.

- EXCELLENT LIFETIME AND PERFORMANCE
- EXCELLENT ABRASION AND WEAR RESISTANCE
- EXCELLENT RESISTANCE AGAINST CRUSHING
- EXCELLENT FATIGUE RESISTANCE
- VERY HIGH BREAKING LOAD
- LOWER ELONGATION OF THE WIRE ROPE
- BETTER GREASE ADHERENCE

ZINCAL COMPACT[®] is the ULTIMATE wire rope for trawlers and beamers, where a good resistance against corrosion is required.



| CORE | | | | |
|-----------------------------|---------------------|-----|--------------------------------------|--|
| NOMINAL ROPE DIAMETER | APPROXIMATE MASS | FO | BREAKING RCE N/MM ² | |
| mm | Kg/m | kN | kgf | |
| 19 | 1,46 | 226 | 23.000 | |
| 20 | 1,61 | 248 | 25.320 | |
| 22 | 1,93 | 297 | 30.330 | |
| 24 | 2,29 | 354 | 36.140 | |
| 25 | 2,52 | 390 | 39.790 | |
| 26 | 2,69 | 416 | 42.400 | |
| 28 | 3,18 | 491 | 50.080 | |
| 30 | 3,62 | 558 | 56.950 | |
| 32 | 4,12 | 636 | 64.820 | |
| 34 | 4,64 | 717 | 73.120 | |
| 36 | 5,21 | 805 | 82.060 | |

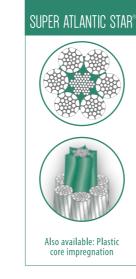


| 980 | OKL | | |
|-----------------------------|---------------------|------|--------------------------|
| NOMINAL ROPE DIAMETER | APPROXIMATE MASS | FOI | BREAKING RCE v/mm² |
| mm | Kg/m | kN | kgf |
| 20 | 1,79 | 282 | 28.720 |
| 22 | 2,15 | 339 | 34.550 |
| 24 | 2,57 | 405 | 41.330 |
| 25 | 2,81 | 442 | 45.070 |
| 26 | 3,00 | 473 | 48.220 |
| 28 | 3,55 | 558 | 56.940 |
| 30 | 4,02 | 633 | 64.540 |
| 32 | 4,59 | 723 | 73.710 |
| 34 | 5,19 | 818 | 83.400 |
| 36 | 5,80 | 913 | 93.110 |
| 38 | 6,44 | 1015 | 103.460 |
| 40 | 7,19 | 1131 | 115.360 |
| 42 | 7,90 | 1243 | 126.700 |
| 44 | 8,69 | 1367 | 139.440 |



| NOMINAL ROPE DIAMETER | APPROXIMATE MASS | MINIMUM BREAKING FORCE 1570 N/MM ² | |
|-----------------------------|---------------------|---|---------|
| mm | Kg/m | kN | kgf |
| 20 | 1,79 | 282 | 28.720 |
| 22 | 2,15 | 339 | 34.550 |
| 24 | 2,57 | 405 | 41.330 |
| 25 | 2,81 | 442 | 45.070 |
| 26 | 3,00 | 473 | 48.220 |
| 28 | 3,55 | 558 | 56.940 |
| 30 | 4,02 | 633 | 64.540 |
| 32 | 4,59 | 723 | 73.710 |
| 34 | 5,19 | 818 | 83.400 |
| 36 | 5,80 | 913 | 93.110 |
| 38 | 6,44 | 1015 | 103.460 |
| 40 | 7,19 | 1131 | 115.360 |
| 42 | 7,90 | 1243 | 126.700 |
| 44 | 8,69 | 1367 | 139.440 |

SUPER **ATLANTIC**[®]





SUPER ATLANTIC® HEAVY COMPACTED FISHING WIRE ROPES especially designed for large pelagic trawlers, midwater trawlers and demersal trawlers. It is produced in the construction 6x K (compacted) 26 WS (Warrington Seale) in order to offer an higher grade of flexibility and a very strong abrasion

- VERY HIGH BREAKING LOAD / VERY LOW ELONGATION / STRONG ABRASION RESISTANCE
- SPECIAL GREASE FOR INCREASING SWR LIFETIME BY REDUCTION OF ABRASION AND CORROSION
- HYDRAULIC ROLLER COMPACTING INHOUSE DESIGNED EQUIPMENT TO AVOID DAMAGE DURING COMPACTING
- EXCELLENT FATIGUE RESISTANCE
- HIGH PERFORMANCE IN TOUGH WORKING CONDITIONS
- HIGHEST QUALITY WIRE, MADE ACCORDING TO OUR SPECIFICATIONS AND ESPECIALLY DESIGNED FOR TRAWLING

All individual wires made inhouse WCWG - ultimate control over quality. Every finished product is tested in test bench and all data is recorded accordingly and kept for a certain time to trace back, in case needed.



| NOMINAL ROPE DIAMETER | APPROXIMATE MASS | MINIMUM FOI 1570 i | RCE | |
|-----------------------------|---------------------|--------------------------|--------|--|
| mm | Kg/m | kN | kgf | |
| 19 | 1,46 | 226 | 23.000 | |
| 20 | 1,61 | 248 | 25.320 | |
| 22 | 1,93 | 297 | 30.330 | |
| 24 | 2,29 | 354 | 36.140 | |
| 25 | 2,52 | 390 | 39.790 | |
| 26 | 2,69 | 416 | 42.400 | |
| 28 | 3,18 | 491 | 50.080 | |
| 30 | 3,62 | 558 | 56.950 | |
| 32 | 4,12 | 636 | 64.820 | |
| 34 | 4,64 | 717 | 73.120 | |
| 36 | 5,21 | 805 | 82.060 | |
| | | | | |



| 900 | - COILE | | | | |
|-----------------------------|---------------------|------|--------------------------|--|--|
| NOMINAL ROPE DIAMETER | APPROXIMATE MASS | FOI | BREAKING RCE v/mm² | | |
| mm | Kg/m | kN | kgf | | |
| 20 | 1,79 | 282 | 28.720 | | |
| 22 | 2,15 | 339 | 34.550 | | |
| 24 | 2,57 | 405 | 41.330 | | |
| 25 | 2,81 | 442 | 45.100 | | |
| 26 | 3,00 | 473 | 48.220 | | |
| 28 | 3,55 | 558 | 56.950 | | |
| 30 | 4,02 | 633 | 64.540 | | |
| 32 | 4,59 | 723 | 73.700 | | |
| 34 | 5,19 | 818 | 83.400 | | |
| 36 | 5,80 | 913 | 93.100 | | |
| 38 | 6,44 | 1015 | 103.460 | | |
| 40 | 7,19 | 1131 | 115.370 | | |
| 42 | 7,90 | 1243 | 126.700 | | |
| 44 | 8,69 | 1367 | 139.440 | | |



SUPER YELLOW FIN®

SUPER YELLOW FIN® is a compacted steel wire rope with superior characteristics.

- VERY FLEXIBLE ROPE
- HIGHER RESISTANCE AGAINST CRUSHING
- HIGHER RESISTANCE TO FATIGUE
- HIGHER BREAKING STRENGTH
- REDUCED WEAR WHEN PASSING THROUGH BLOCKS, GUIDING GEAR AND PURSE SEINE RINGS
- LOWER TENDENCY TO UNTWIST
- LESS ELONGATION OF WIRE ROPE

It is fully recommended for purse seining (**TUNA FISHING**), but also excellent performance in

SUPER YELLOW FIN®, the most used Purse Seine Wire Rope in the world!

| 6) | K19 SEALE | | x K26 'ARR i ngton seale |
|-----------------|-------------------|-------|------------------------------------|
| ₩ F | ROM 14 mm | A 100 | ROM 28 mm O 36 mm |
| NOMINAL ROPE | APPROXIMA MASS | | M BREAKING ORCE |
| DIAMETER | | 157 | 0 n/mm² |
| mm | Kg/m | kN | kgf |
| 14 | 0,77 | 116 | 11.830 |
| 16 | 1,01 | 156 | 15.910 |
| 18 | 1,29 | 198 | 20.230 |
| 19 | 1,43 | 217 | 22.130 |
| 20 | 1,55 | 235 | 23.960 |
| 21 | 1,72 | 263 | 26.820 |
| 22 | 1,90 | 293 | 29.880 |
| 24 | 2,26 | 348 | 35.490 |
| 25 | 2,47 | 379 | 38.650 |
| 26 | 2,70 | 415 | 42.320 |
| 28 | 3,05 | 464 | 47.320 |
| 30 | 3,34 | 505 | 51.500 |
| 32 | 3,95 | 600 | 61.180 |
| 34 | 4,51 | 683 | 69.650 |
| 36 | 5,04 | 760 | 77.500 |

6x K19 SEALE

| FRO | OM 14 mm 8 | FRO TO |)M 28 mm 36 mm |
|-----------------------------|---------------------|--------------------------|-------------------|
| NOMINAL ROPE DIAMETER | APPROXIMATE MASS | MINIMUM FOI 1570 r | |
| mm | Kg/m | kN | kgf |
| 14 | 0,87 | 130 | 13.260 |
| 16 | 1,14 | 170 | 17.340 |
| 18 | 1,45 | 215 | 21.920 |
| 20 | 1,75 | 256 | 26.110 |
| 21 | 1,93 | 284 | 28.960 |
| 22 | 2,14 | 315 | 32.120 |
| 24 | 2,54 | 372 | 37.930 |
| 25 | 2,77 | 415 | 42.320 |
| 26 | 3,02 | 453 | 46.190 |
| 28 | 3,44 | 510 | 52.010 |
| 30 | 3,82 | 590 | 60.180 |
| 32 | 4,45 | 665 | 67.810 |
| 34 | 5,06 | 750 | 76.480 |
| 36 | 5,66 | 841 | 85.760 |



GREEN **STRAND**[®]



- MOST COMMON FOR SMALL AND MEDIUM FISHING VESSELS
- IT HAS A VERY GOOD RELATION: ABRASION RESISTANCE /CORROSION RESISTANCE
- PARALLEL LAY TO AVOID THE CROSSING OF THE SINGLE WIRES IN THE STRANDS
- THIS WIRE ROPE IS SUITABLE FOR BOTTOM, SHRIMP AND PAIR TRAWLERS AND PURSE SEINERS



| NOMINAL ROPE DIAMETER | APPROX I MATE MASS | MINIMUM FOF 1570 n | RCE |
|-----------------------------|------------------------------|--------------------------|--------|
| mm | Kg/m | kN | kgf |
| 18 | 1,35 | 198 | 20.190 |
| 19 | 1,50 | 217 | 22.130 |
| 20 | 1,69 | 250 | 25.490 |
| 22 | 1,95 | 295 | 30.080 |
| 24 | 2,33 | 351 | 35.790 |
| 26 | 2,82 | 427 | 43.540 |
| 28 | 3,22 | 495 | 50.480 |
| 30 | 3,69 | 575 | 58.630 |
| 32 | 4,24 | 650 | 66.280 |

- HIGHER BREAKING LOAD, COMPARED TO THE STEEL WIRI ROPES WITH SYNTHETIC CORE
- LOW ELONGATION AND VERY LOW DIAMETER REDUCTION
- GOOD RESISTANCE AGAINST CRUSHING

| ROPE D I AMETER | MASS | FOF 1570 N | RCE N/MM ² |
|---------------------------|------|---------------|--------------------------|
| mm | Kg/m | kN | |
| 12 | 0,53 | 79 | 8.080 |
| 13 | 0,62 | 96 | 9.750 |
| 14 | 0,71 | 109 | 11.11 |
| 15 | 0,83 | 126 | 12.85 |
| 16 | 0,95 | 145 | 14.79 |
| 17 | 1,06 | 163 | 16.62 |
| 18 | 1,19 | 185 | 18.87 |
| 19 | 1,33 | 203 | 20.70 |
| 20 | 1,49 | 228 | 23.21 |
| 22 | 1,72 | 270 | 27.76 |
| 24 | 2,05 | 321 | 32.94 |
| 26 | 2,49 | 389 | 39.67 |
| 28 | 2,85 | 447 | 46.60 |
| 30 | 3,27 | 512 | 53.33 |

32 3,74 585 59.650

EASY TO SPLICE AND HANDLE



| NOMINAL ROPE DIAMETER | APPROXIMATE MASS | MINIMUM BREAKING FORCE 1570 N/MM ² | |
|-----------------------------|---------------------|---|--------|
| mm | Kg/m | kN | kgf |
| 18 | 1,28 | 191 | 19.500 |
| 19 | 1,36 | 202 | 20.600 |
| 20 | 1,58 | 235 | 24.000 |
| 22 | 1,84 | 273 | 27.900 |
| 24 | 2,19 | 326 | 33.300 |
| 25 | 2,42 | 361 | 36.800 |
| 26 | 2,65 | 407 | 41.500 |
| 28 | 3,05 | 467 | 47.600 |
| | | | |

THE CORE OF THE WIRE ROPE IS A COMBINATION OF STEEL AND FIBER, WHICH RESULTS IN A HIGHER

32 3,97 613 62.500

LESS ELONGATION AND BETTER RESISTANCE AGAINST

INTERNAL LUBRICATION THAT LASTS LONGER

EASY TO SPLICE AND HANDLE HIGHER BREAKING LOAD AND MORE STABLE WIRE ROP!

Also available with plastic impregnation in the core.

COMPARED TO FC