# WELLWORTH

TOTAL MATERIAL HANDLING SOLUTIONS

Established in 1993, Wellworth Wire Ropes, holds specialization in manufacturing of Steel Wire Ropes & Slings. We provide customized engineering solutions for customer's needs of Material Handling.

IS 2365
IS:2266

ISO
9001:2008


...ropes that reign.

## STEEL WIRE ROPES & SLINGS

- General Engineering Wire Ropes
- Elevators/Lifts Wire Ropes
- Non Rotating/Crane/Hoists Ropes
- Guy/Support Steel Wire Ropes
- Drilling/Mining/Haulage Wire Ropes
- Shipping & Aviation Wire Ropes
- Bridges & Suspension Ropes
- PVC/Nylon Coated Wire Ropes
- Stainless Steel Ropes - AISI 304, 316


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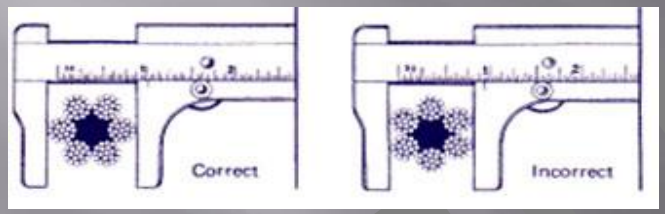
# STEEL WIRE ROPES

Every "WELLWORTH" wire has three basic components: the wires, strands and core. The wires are predominantly constructed from high-carbon steel, stainless steel, Mild Steel and Copper.

Wire rope generally comes with a “Bright" or “Uncoated” finish but can be coated with Zinc, Nylon, LD and PVC etc for special purpose. It should be understood that these coatings can affect the characteristics and breaking strength of the wire rope.

## IMPORTANT POINTS FOR ORDERING STEEL WIRE ROPES

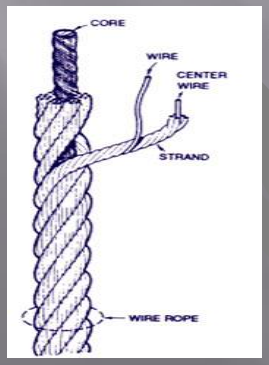
When sending enquiry or order of "WELLWORTH" steel wire ropes, please furnish the following information to quote you the exact rope as per your requirements.




Always measure the diameter of wire rope at its widest point

**DIAMETER** - Specify the rope diameter in mm as per IS standard.

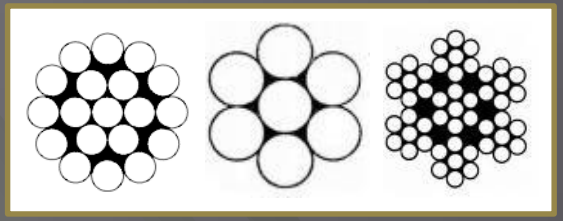
**LENGTH** - Specify the correct length as per your requirement. Too long a rope will negatively influence coiling and will result in premature rope failure and subsequent wastage. A too short rope will not be able to last its full life.




**CONSTRUCTION** - A rope is generally made up of number of strands twisted around a core. The strands are themselves formed from a number of wires twisted in a helical fashion.
Example: 6X36 (14/7/&7/7/1). This description means that there are 6 strands in the rope, each consisting of 36 wires. The number in the brackets indicate the make up of the strands, starting from the outer wire layer, There are 3 wire layers (separated by "/" sign. the first layer (outer consists of 14 wires, the second layer consists of 7 wires, and 7 small wires and the third layer has 7 wires over a core wire. *Please refer page no. 8 for pictures of wire rope constructions.*

**CORE TYPE** - The core of a steel wire rope can be either Fiber or Steel. In case of steel core, the alternatives can be Independent Wire Rope Core (IWRC) or Wire Strand Core (WSC). The IWRC is preferred as a core where resistance to crushing or heat is required.

**COATING/ FINISH** - A rope can either be Un-galvanized, Galvanized or Coated. In rope nomenclature, un-galvanized rope is also known as "Black". Do specify if the coating is required.



STRANDS IWRC

Right Hand Ordinary Lay

Left Hand Ordinary Lay

Right Hand Langs Lay

Left Hand Langs Lay

**LAY** - Two different methods of laying up are ORDINARY (REGULAR) LAY and LANGS LAY. In Ordinary Lay the wires in strands and the strands in rope are laid up in the opposite direction, it is suitable for all general work. In Langs Lay the direction of the both the wires in the strands as well as the strands in the rope are in the same direction. It tends to wear more evenly and are more flexible but has limited usage as compared to ordinary lay ropes They are extensively used for winding and haulage.

**HAND OF LAY** - This term refers to the direction in which the strands are laid up in the rope, as distinct from the direction of wires. Right Hand Lay is the usual standard adopted by rope manufacturers and all ropes are supplied with this lay unless otherwise specified. The use of Left Hand Lay is usually confined to ropes used for drilling to prevent unscrewing of rods, or in cranes and elevators to counteract the spin. Usually Left-Hand Lay rope is used in combination with Right Hand Lay rope.

**PREFORMED OR NON-PREFORMED** - A rope can be pre-formed or non-pre-formed. Usually, a general engineering rope is pre-formed, whereas an elevator rope is non-pre-formed.

**TENSILE STRENGTH (UTS)** - This property signifies the strength/ load bearing capacity of the wire rope. Usually, if you procure a rope as per IS specifications, the usual designations are 1770 N/mm2, 1960 N/mm2, or 2160 N/mm2. The other less frequently used tensile designations are 1420 and 1570 N/ mm2. Alternatively, in place of N/mm2, we can use 160 Kg/mm2, 180 Kg/mm2, and 200 Kg/mm2.

| STEEL CATEGORY | UTS |
|---|---|
| MILD STEEL (MS) | 80-100 kg/mm$^2$ |
| HIGH CARBON STEEL / BEST PLOUGH STEEL | 140-180 kg/mm$^2$ |
| IMPROVED PLOUGH STEE (IPS) | 180-200 kg/mm$^2$ |
| EXTRA IMPROVED PLOUGH STEEL (EIPS) | 200-240 kg/mm$^2$ |

**MINIMUM BREAKING LOAD** - Minimum Braking Load is the load at which the rope will break. If possible, the same should also be furnished, as it aids in checking on the specifications of the offered rope. *Refer Breaking Load Table.*

**SAFE WORKING LOAD** - Safe Working Load is the load which is recommended for the specified wire rope. We keep Safety Factor 5 for calculation of Safe Working Load to assure maximum safety.

**RELATED STANDARD** - Every rope is manufactured in conformance to specific quality conformation standards. The same may be either IS or Indian standards, DIN, BS, JIS, API or any other standard as specified by the customer.

**END FITTINGS / TERMINATIONS** - In certain applications, you may need to attach additional fittings, such as Thimbles, Sockets, Rings, Loops etc which can be supplied as per customers' requirements.

**PACKING** - Usually, a steel wire rope can be packed either in wooden or steel Reels or coils. Minimum length of wooden reel up to 12mm shall be 610 meter & for higher sizes 305 meter. Cut length can also be supplied.

**LUBRICATION** - If lubrication is required, do specify the same.

**AREA OF APPLICATON** - In addition to the above specification, we usually ask for the area of application of a rope, so that we can ourselves judge whether the specific rope that is being offered is the suitable one or not. It aids as an additional check for us so that we can ensure that only the rope with the best possible combination of properties is reaching you.

**TEST CERTIFICATES** - If special testing is required from external Testing agencies, the same should be specified while sending the enquiry. Otherwise, as a valid proof of the quality, each and every rope is supplied along with a Test Certificate.

***High strength steel wire ropes that can lift, pull, push... anything and everything !!***

## Choose your "WELLWORTH" wire rope :

**We offer customization facilities to our clients as per the specifications given by them.**

| INFORMATION NEEDED | EXAMPLES |
|---|---|
| Un-Galvanized or Galvanized | Galvanized |
| Construction & Type of Core | 6 X 19 + IWRC |
| Diameter or Circumference | 25mm Dia. |
| Direction & Type of Lay | Right-Hand Regular Lay |
| Preformed or Non -Preformed | Preformed |
| Lubrication | A-3 Type |
| Tensile Strength | 180 Kg/mm$^2$ / 1770N/mm$^2$ EIPS |
| Specification | IS 2266/89/ BSS/ API / DIN |
| Packing | Coil / Wooden-Drum |
| Usage | Fishing / Sky-Line / Haul-Back Line |

## "WELLWORTH" Wire Ropes for...

- Engineering : IS 2266
- Bridges : IS 9282
- Drilling / Mining / Haulage : IS 9282
- Suspension IS 4521
- Lift & Elevators : IS 2365
- Shipping : IS 2581
- Aviation : IS 3459
- Slings : IS 5245 Part I & II
- PVC / LD / HD / Nylon coated ropes
- Stainless Steel Ropes: AISI 304, 316, 310
- Guy / Support Ropes
- ACSR Conductor & Stay Wires
- Structural & Designing suitable ropes

## Clients – we have roped in :

Nuclear Power Corporation of India, Larsen & Turbo, Steel Authority of India Ltd., IAF – Ministry of Defence, ONGC, Delhi Metro Rail Corporation, Railways, Maruti Udyog Ltd., CPWD New Delhi, Indian Oil Corporation, Reliance Petrochemicals, Hindustan Construction Company, Hindustan Aeronautics Ltd., Tata Chemicals Ltd. etc are some of the list.



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# STAINLESS STEEL WIRE ROPES

*Other grades are also available*

Stainless steel is a metal alloy that has elements added to steel which make it rust and corrosion resistant. In general, stainless steels are harder and more corrosion resistant than carbon steel. Commonly used stainless steel grades in wire ropes are :

**AISI 304** grade is the most commonly used stainless steel because of its Anti-corrosion properties & economical price. Wire ropes made up of AISI 304 Grade are used in all applications where moisture, chemical & other corrosive material is present.

**AISI 316** grade is the second most common used stainless steel. It has excellent resistance to salt water corrosion hence wire ropes made up of 316 grades are the best suitable ropes for marine application e.g. Fishing, Boat Fixing, Water Filtration etc.. It is the standard wire rope for use on yachts.

**AISI 310/ 314** grade has excellent resistance to temperature hence most suitable in Furnace, Oil Burner, Heat Treatment, Heat exchangers & Welding applications etc.

| Grade (AISI) | | C | Mn | Si | P | S | Cr | Mo | Ni | N |
|---|---|---|---|---|---|---|---|---|---|---|
| 304 | Min | - | - | - | - | - | 18.0 | - | 8.00 | - |
| | Max | 0.08 | 2.0 | 0.75 | 0.045 | 0.030 | 20.0 | - | 10.50 | 0.10 |
| 304L | Min | - | - | - | - | - | 18.0 | - | 8.00 | - |
| | Max | 0.03 | 2.0 | 0.75 | 0.045 | 0.030 | 20.0 | - | 12.00 | 0.10 |
| 316 | Min | - | - | - | - | - | 16.0 | 2.00 | 10.0 | - |
| | Max | 0.08 | 2.0 | 0.75 | 0.045 | 0.03 | 18.0 | 3.00 | 14.0 | 0.10 |
| 316L | Min | - | - | - | - | - | 16.0 | 2.00 | 10.0 | - |
| | Max | 0.03 | 2.0 | 0.75 | 0.045 | 0.03 | 18.0 | 3.00 | 14.0 | 0.10 |
| 310 | Min | - | - | - | - | - | 24.0 | - | 19.0 | - |
| | Max | 0.25 | 2.0 | 1.50 | 0.045 | 0.030 | 26.0 | - | 22.0 | - |
| 310L | Min | - | - | - | - | - | 24.0 | - | 19.0 | - |
| | Max | 0.03 | 2.0 | 0.75 | 0.045 | 0.030 | 26.0 | - | 22.0 | - |

# COATED WIRE ROPES

Our range includes both Galvanized & Stainless Steel Coated Wire Ropes. A wide range of PVC/Nylon coated wire ropes is readily available form stock. Special coating can be manufactured upon request.

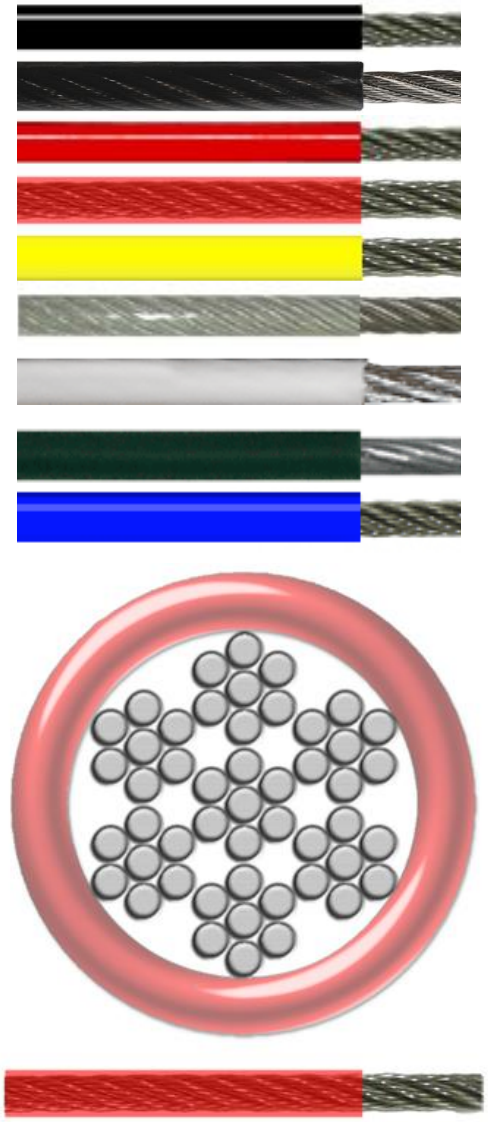
PVC is a low cost, general purpose coating which is very flexible. Nylon is hard-wearing & abrasion-resistant coating ideal for running applications.

**Applications :** Coated wire ropes have different industrial applications. Some of the known applications are:

- Gymnasium cables
- Guardrail
- Catenary systems
- Horticultural applications
- Safety wire
- Cable locking system
- Barrier ropes
- Washing lines
- Abattoir wire
- Roller shutter cables

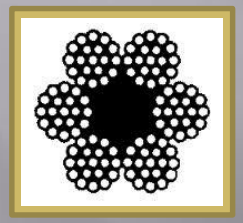
**How to order :** Please provide the following details to offer you correct product:

1. **ID** *(Inner Dia of wire rope before coating)*
2. **OD** *(Outer Dia of wire rope after coating)*
3. **Coating Type** *(PVC/Nylon)*
4. **Coating Thickness** *(in MM)*
5. **Coating Color** *(Red, Blue, Black, Green White etc.)*
6. **Transparency** *(Opaque/Transparent)*
7. **Construction of Rope** *(7x7, 7x19, 1x19, 1x12 etc)*
8. **Grade of Wire** *(Galvanized / Bright / Stainless Steel)*

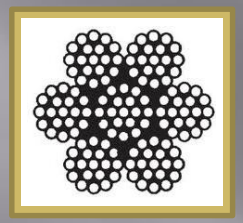


# FINE ROPE SPECIFICATIONS

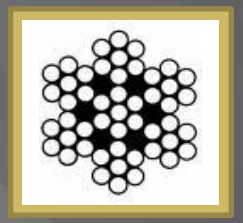
6 x 19 FC



6 x 19 SC



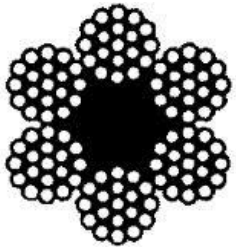
7 x 7



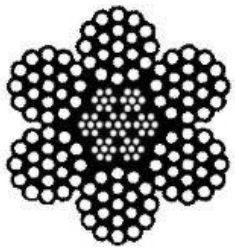
| SIZE (DIA) As per IS 3459/77 | BREAKING LOAD Kgf |
|---|---|
| STEEL CORE (SC) | |
| 3.00mm | 530 |
| 4.00mm | 1150 |
| 5.00mm | 1470 |
| 6.00mm | 2100 |
| FIBRE CORE (FC) | |
| 3.00mm | 490 |
| 4.00mm | 870 |
| 5.00mm | 1360 |
| 6.00mm | 1960 |
| | |
| *Our range starts from 0.5 mm* | |

| SIZE (DIA) As per IS 3459/77 | BREAKING LOAD Kgf |
|---|---|
| 1.00mm | 100 |
| 1.20mm | 120 |
| 1.50mm | 160 |
| 1.80mm | 230 |
| 2.00mm | 280 |
| 2.50mm | 450 |
| 3.00mm | 650 |
| 3.50mm | 800 |
| 4.00mm | 1100 |
| 5.00mm | 1550 |
| 6.00mm | 2250 |
| 7.00mm | 3100 |
| 8.00mm | 3800 |

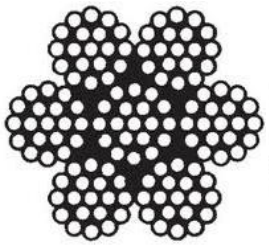
# WIRE ROPE
## CONSTRUCTIONS



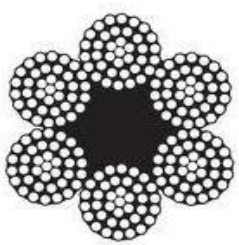
(1) 6x19 FC



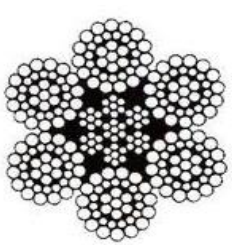
(2) 6x19 IWRC



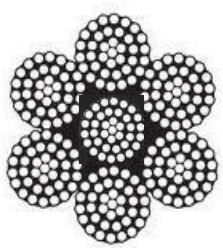
(3) 6x19 WSC



(4) 6x37 FC

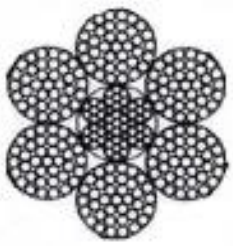


(5) 6x37 IWRC

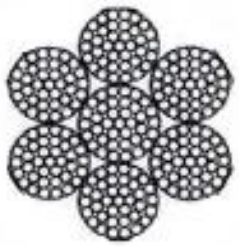


(6) 6x37 WSC

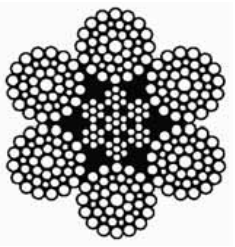
(7) 6x36 FC



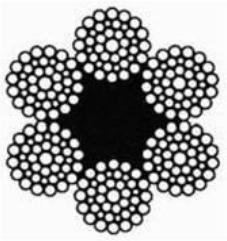
(8) 6x36 IWRC



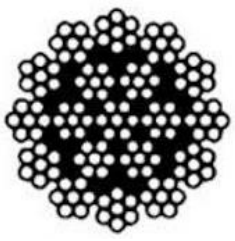
(9) 6x36 WSC



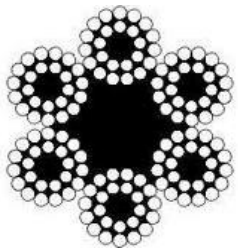
(10) 6x41 IWRC



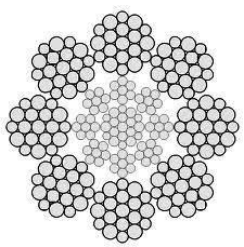
(11) 6x41 FC



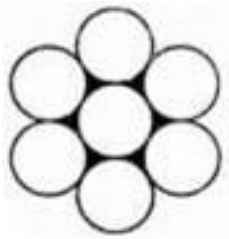
(12) 18x7 WSC



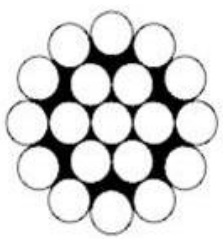
(13) 6x24 FC



(14) 8x19 IWRC

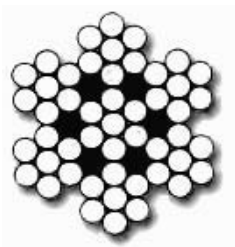


(15) 1x7



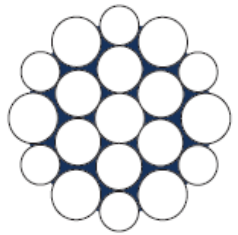
(16) 1x19

(17) 6X7 FC

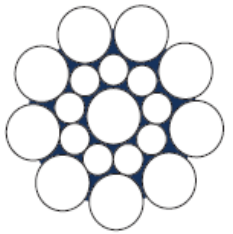


(18) 6X7 WSC

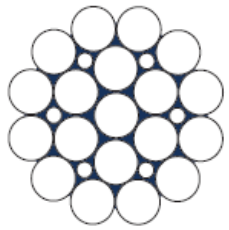
# STRAND
## CONSTRUCTION



W-WARRINGTON



S-SEALE



(W) + (S)



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# BREAKING LOAD CHART OF WIRE ROPE

| Nomi. | MASS | | 6 X 19 (12/6/1) | | | | 6 X 37 (18/6/1) | | | | MASS | | 6 X 19 Filler (12/6+6F/1) | | | | 6 X 36 (14/7 & 7/7/1) | | | | MASS | | 17 X 7, 18 X 7 (6/1) | | | | 6 X 24 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dia | 6 X 19 & | | IS : 2266/89 | | | | IS : 2266/89 | | | | 6 X 19 F & | | IS : 2266/89 | | | | 6 X 41 (16/8 & 8/8/1) | | | | | | IS : 2366/89 | | | | (15/9 Fibre) | |
| mm | 6 X 37 | | MIN BREAKING LOAD KN | | | | MIN BREAKING LOAD KN | | | | 6 X 36, 6 X 41 | | MIN BREAKING LOAD KN | | | | IS : 2266/90 | | | | | | MIN BREAKING LOAD KN | | | | IS : 2581/77 | |
| | | | | | | | | | | | | | | | | | MIN BREAKING LOAD KN | | | | | | | | | | 145 Kg./mm | |
| | Kg./100 Mtrs | | 160 Kg./mm² | | 180 Kg./mm² | | 160 Kg./mm² | | 180 Kg./mm² | | Kg./100 Mtrs | | 160 Kg./mm² | | 180 Kg./mm² | | 160 Kg./mm² | | 180 Kg./mm² | | Kg./100 Mtrs | | 160 Kg./mm² | | 180 Kg./mm² | | Mass | Min B |
| mm | FMC | IWRC | FMC | IWRC | FMC | IWRC | FMC | IWRC | FMC | IWRC | FMC | IWRC | FMC | IWRC | FMC | IWRC | FMC | IWRC | FMC | IWRC | FMC | IWRC | FMC | IWRC | FMC | IWRC | Kg. | Kn. |
| 5 | 8.65 | 9.5 | - | - | 14.6 | 14.7 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 6 | 12.5 | 13.7 | - | - | 19.6 | 21 | 18.8 | 20 | 21 | 23 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 7 | 17 | 18.6 | 27 | 29 | 30 | 32 | 26 | 28 | 28 | 30 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 8 | 22.1 | 24.4 | 31 | 33 | 35 | 37.8 | 30 | 32 | 33 | 36 | 24.3 | 26.8 | 34 | 37 | 38 | 41 | - | - | - | - | 24.5 | 25.7 | 32 | 33 | 36 | 37 | 20.4 | 26 |
| 9 | 28 | 30.8 | 39 | 42 | 44 | 47.5 | 37 | 40 | 42 | 46 | 30.8 | 33.9 | 43 | 46 | 48 | 52 | 42 | 45 | 47 | 51 | 31 | 32.6 | 41 | 42 | 46 | 47 | 25.8 | 32 |
| 10 | 34.6 | 38.1 | 48 | 52 | 54 | 58.3 | 46 | 50 | 52 | 56 | 38 | 41.8 | 53 | 57 | 60 | 65 | 52 | 56 | 58 | 63 | 38.3 | 40.2 | 50 | 52 | 56 | 58 | 31.8 | 40 |
| 11 | 41.9 | 46.1 | 58 | 63 | 66 | 71.3 | 56 | 60 | 63 | 68 | 46 | 50.6 | 64 | 69 | 72 | 78 | 63 | 68 | 71 | 76 | 46.3 | 48.6 | 61 | 62 | 68 | 70 | 38.5 | 48 |
| 12 | 49.8 | 54.8 | 69 | 75 | 78 | 84.2 | 67 | 72 | 75 | 81 | 54.7 | 60.2 | 76 | 82 | 86 | 93 | 75 | 81 | 84 | 92 | 55.1 | 57.9 | 72 | 74 | 81 | 84 | 45.8 | 57 |
| 13 | 58.5 | 64.4 | 82 | 88 | 92 | 99.4 | 78 | 84 | 88 | 95 | 64.3 | 70.7 | 90 | 97 | 101 | 109 | 88 | 97 | 99 | 106 | 64.7 | 67.9 | 85 | 87 | 95 | 98 | 53.8 | 67 |
| 14 | 67.8 | 74.6 | 95 | 102 | 107 | 116 | 91 | 98 | 102 | 110 | 74.5 | 82 | 104 | 112 | 117 | 127 | 102 | 112 | 114 | 124 | 75 | 78.8 | 98 | 101 | 111 | 114 | 62.4 | 78 |
| 15 | 77.8 | 85.6 | 110 | 117 | 122 | 132 | 104 | 112 | 117 | 127 | 85.5 | 94 | 119 | 129 | 134 | 145 | 117 | 128 | 131 | 142 | 86 | 90.3 | 113 | 116 | 127 | 131 | 71.6 | 90 |
| 16 | 88.6 | 97.4 | 124 | 133 | 139 | 150 | 118 | 128 | 134 | 144 | 97.3 | 107 | 136 | 147 | 153 | 165 | 133 | 143 | 149 | 161 | 98 | 103 | 128 | 132 | 144 | 149 | 81.5 | 102 |
| 17 | 100 | 110 | 139 | 151 | 157 | 170 | 134 | 144 | 151 | 163 | 110 | 121 | 155 | 165 | 173 | 187 | 150 | 162 | 169 | 182 | 111 | 117 | 145 | 149 | 163 | 168 | 92 | 115 |
| 18 | 112 | 123 | 156 | 160 | 176 | 190 | 150 | 162 | 169 | 183 | 123 | 135 | 172 | 186 | 194 | 209 | 168 | 181 | 189 | 204 | 124 | 130 | 162 | 167 | 183 | 188 | 103 | 129 |
| 19 | 125 | 137 | 174 | 188 | 196 | 212 | 167 | 180 | 188 | 203 | 137 | 151 | 191 | 207 | 216 | 213 | 187 | 202 | 211 | 228 | 138 | 145 | 181 | 186 | 204 | 210 | 115 | 144 |
| 20 | 138 | 152 | 193 | 208 | 218 | 235 | 185 | 200 | 209 | 225 | 152 | 167 | 212 | 229 | 239 | 258 | 207 | 224 | 234 | 252 | 153 | 161 | 200 | 206 | 226 | 323 | 127 | 159 |
| 21 | 153 | 168 | 213 | 230 | 240 | 259 | 204 | 220 | 230 | 248 | 168 | 184 | 234 | 253 | 264 | 285 | 228 | 247 | 258 | 278 | 169 | 177 | 221 | 227 | 249 | 256 | 140 | 175 |
| 22 | 167 | 184 | 234 | 252 | 263 | 285 | 224 | 242 | 253 | 273 | 184 | 202 | 257 | 277 | 289 | 312 | 251 | 271 | 283 | 305 | 185 | 195 | 242 | 249 | 273 | 281 | 154 | 193 |
| 24 | 199 | 219 | 278 | 300 | 313 | 338 | 267 | 288 | 301 | 325 | 219 | 241 | 305 | 330 | 344 | 372 | 298 | 322 | 336 | 363 | 220 | 231 | 288 | 297 | 325 | 335 | 183 | 229 |
| 25 | 216 | 238 | 302 | 326 | 340 | 367 | 289 | 312 | 326 | 352 | 238 | 261 | 331 | 358 | 374 | 403 | 324 | 350 | 365 | 394 | 239 | 251 | 312 | 322 | 352 | 363 | 199 | 249 |
| 26 | 234 | 257 | 326 | 352 | 368 | 397 | 313 | 338 | 353 | 381 | 257 | 283 | 358 | 387 | 404 | 436 | 350 | 378 | 395 | 426 | 259 | 272 | 338 | 348 | 381 | 393 | 215 | 269 |
| 28 | 271 | 298 | 378 | 409 | 426 | 461 | 363 | 392 | 409 | 442 | 298 | 328 | 416 | 449 | 469 | 506 | 406 | 439 | 458 | 494 | 300 | 315 | 392 | 404 | 412 | 455 | 250 | 312 |
| 32 | 354 | 390 | 494 | 534 | 557 | 602 | 474 | 512 | 534 | 577 | 389 | 428 | 543 | 586 | 612 | 661 | 530 | 573 | 598 | 646 | 392 | 412 | 512 | 527 | 577 | 595 | 326 | 407 |
| 36 | 448 | 493 | 625 | 675 | 705 | 761 | 600 | 648 | 676 | 730 | 493 | 542 | 687 | 742 | 775 | 837 | 671 | 725 | 757 | 817 | 496 | 521 | 648 | 668 | 731 | 753 | 413 | 516 |
| 40 | 554 | 609 | 772 | 834 | 870 | 940 | 741 | 800 | 835 | 902 | 608 | 669 | 848 | 916 | 956 | 1033 | 829 | 895 | 934 | 1009 | 612 | 643 | 800 | 824 | 902 | 929 | 509 | 637 |
| 44 | 670 | 737 | 934 | 1009 | 1053 | 1137 | 896 | 967 | 1010 | 1090 | 736 | 810 | 1026 | 1109 | 1157 | 1250 | 1003 | 1083 | 1131 | 1221 | - | - | - | - | - | - | 616 | 770 |
| 48 | 797 | 877 | 1112 | 1201 | 1253 | 1354 | 1066 | 1151 | 1202 | 1298 | 876 | 964 | 1222 | 1319 | 1377 | 1487 | 1193 | 1289 | 1345 | 1453 | - | - | - | - | - | - | 734 | 917 |
| 52 | 936 | 1029 | 1305 | 1409 | 1471 | 1588 | 1252 | 1351 | 1411 | 1523 | 1028 | 1131 | 1434 | 1548 | 1616 | 1745 | 1401 | 1513 | 1579 | 1705 | - | - | - | - | - | - | 861 | 1067 |

Note: a) Mass of Rope in Kg/100 Mtrs. shown above is approximate. b) The breaking load figures shown above are in Kilo Newton.
c) Sizes 15, 17, 21 & 25 MM are not covered in IS specification. To obtain Metric Ton, multiply figures shown above by 0.1020.

$$\text{Maximum Safe Working Load} = \frac{\text{Breaking Load of Rope}}{\text{Factor of Safety}}$$

| BREAKING LOAD CHART OF WIRE ROPE<br>Higher Diameter<br>(6x36 (14/7 & 7/7/1) Fiber Core) | | | |
|---|---|---|---|
| Diameter | Approx Mass | Breaking Load | |
| | | 1570 N/mm² | 1770 N/mm² |
| 1<br>MM | 2<br>Kgs/100 Mtr | 3<br>KN | 4<br>KN |
| 50 | 951 | 1290 | 1460 |
| 52 | 1030 | 1400 | 1580 |
| 56 | 1190 | 1620 | 1830 |
| 58 | 1280 | 1740 | 1960 |
| 61 | 1410 | 1930 | 2170 |
| 65 | 1610 | 2190 | 2470 |
| 72 | 1970 | 2680 | 3030 |
| 85 | 2750 | 3740 | 4220 |
| 90 | 3080 | 4190 | 4730 |
| 95 | 3430 | 4670 | 5270 |
| 100 | 3800 | 5180 | 5840 |

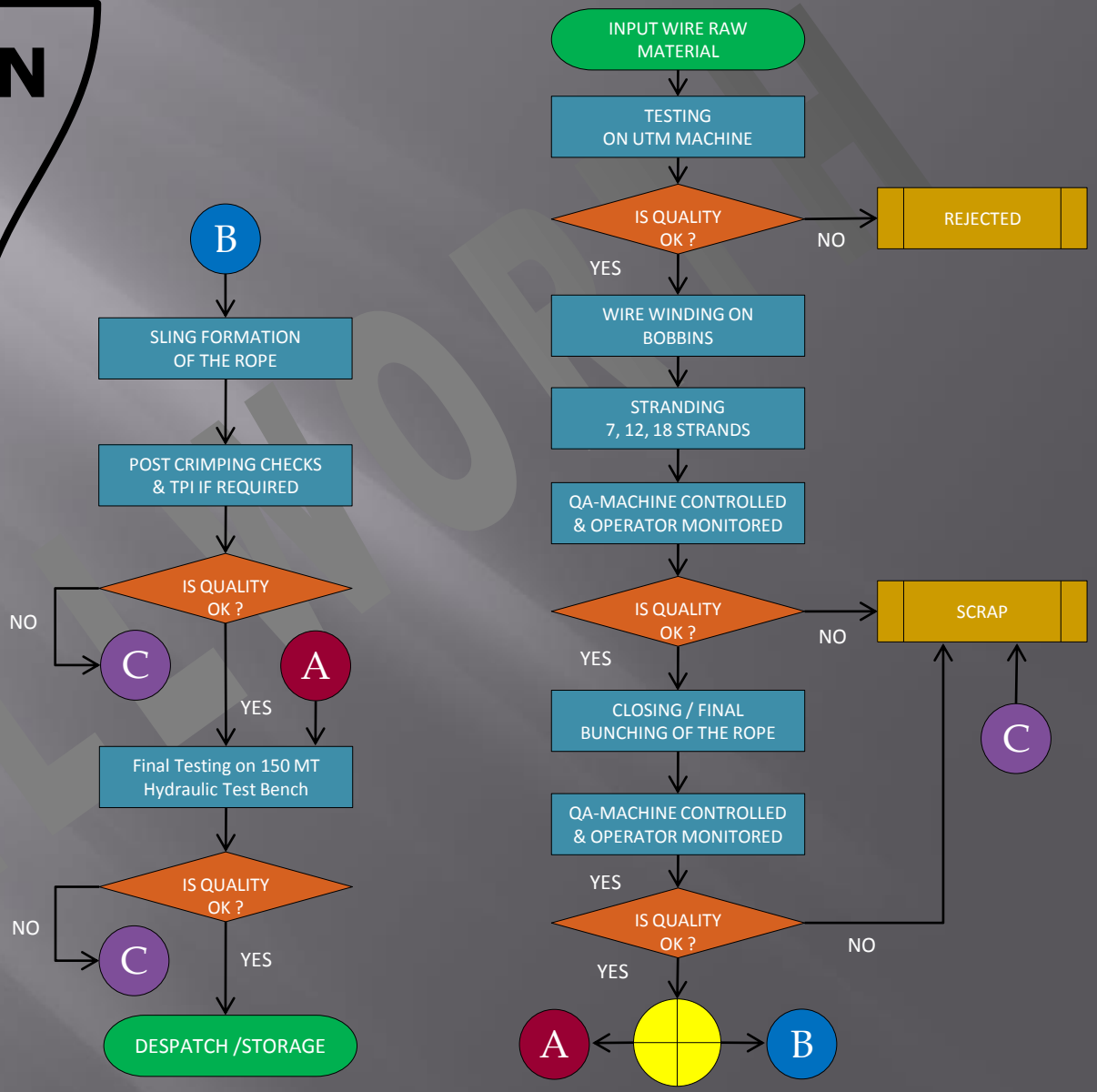
**Note:**

1) The masses of rope given are calculated values and are for guidance only.
2) All the values indicated in this table are based on latest I.S.O. Publications
3) To obtain the minimum breaking load for Steel Cored ropes, multiply the figures in column 2 & 3 by 1.08
4) To obtain the mass of Steel Cored ropes multiply the figures in column 2 by 1.10

**Note: The breaking load figures shown above are in Kilo Newton.**
**To obtain Metric Ton, multiply figures shown above by 0.1020.**

$$\text{Maximum Safe Working Load} = \frac{\text{Breaking Load of Rope}}{\text{Factor of Safety}}$$

# PRODUCTION PROCESS FLOW



# QUALITY ASSURANCE PROCEDURE

***We carry out the following tests on our products to assure the quality of Wire Ropes.***

**INCOMING RAW MATERIAL TEST –** for Accuracy of Dia , Ovalty, Tensile Strength, Zinc Coating for G.I. wires & Reverse Bend Test.

**PROCESS TESTING –** Carried out at different stages of production for Maintaining the required Strand Dia, To check Pre-forming, Checking the Pitch Length & Constant strict supervision for breakage of wire during the stranding operation.

**FINISHED ROPE TESTING –** for O.D., Post-forming accuracy, Lubrication, **Breaking Load Test on 50 MT UTM Machine,** Strict supervision during the final bunching process thereby ensuring that the rope is totally free from kinks and any manufacturing defects.

**FINAL TESTING - The rope is tested on 150 MT Horizontal Test Bed for Breaking Load of the rope as per IS: 2266/02 & IS: 2365/77.**

1. Quality Checks vis-à-vis P.O. for Dia, Construction, Core, Lay, Finish, Mass, Tensile Strength, Breaking Load, Lubrication etc.
2. Sample is drawn, marked, labelled and kept for record.

## IS COMPLIANCE

We strictly adhere to the IS codes, which have been basically adapted from the BS codes and are internationally acceptable. In principle IS: 2266/89 is followed which is the parent IS code outlining the basic rope standards. Further, a number of IS codes are specified and followed depending on the application of the rope, mainly specified industry wise.

## CERTIFICATIONS

All our Ropes & Slings are supplied with Manufacturer's Test Certificate - It consists all the important Technical Parameters e.g. Breaking Load, Proof Load, SWL, Construction, Length, & related IS Standard etc.

## APPROVALS

Our ropes are already on the approved lists of Indian Railways, Rail Coach Factories, D.L.W., S.A.I.L., NPCL, Ministry of Defence- DGAQA, O.N.G.C., I.O.C.L., **DMRC,** L&T, H.C.C., Maruti Udyog etc., to name a few.


भारत सरकार
GOVERNMENT OF INDIA
व्यापार चिन्ह रजिस्ट्री
TRADE MARKS REGISTRY
व्यापार चिन्ह अधिनियम, 1999
Trade Marks Act, 1999
व्यापार चिन्ह के रजिस्ट्रीकरण का प्रमाणपत्र, धारा 23 (2) नियम 62 (1)
Certificate of Registration of Trade Mark , Section 23 (2) Rule 62 (1)
Certified that the Trade Mark / a representation is annexed hereto, has been registered in the name(s) of
WELL WORTH WIRE ROPES PRIVATE LIMITED, (AN INDIAN COMPANY REGISTERED UNDER COMPANIES ACT, 1956), 4045 1ST FLOOR AJMERI GATE DELHI, SERVICE PROVIDERS, (Body Incorporate)
In Class 35 Under No. 1703790 as of the Date 26 June 2008 in respect of
BUSINESS MANAGEMENT BUSINESS ADMINISTRATION; OFFICE FUNCTIONS
WELL WORTH WIRE ROPES
Sealed at my direction, this 31st day of January , 2011
Trade Marks Registry, DELHI
Registrar of Trade Marks

IS:2365-CM/L-2618457
IS:2266-CM/L-2621850

MICRO, SMALL & MEDIUM ENTERPRISES

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