

TECHNICAL SPECIFICATIONS DOBERMANN

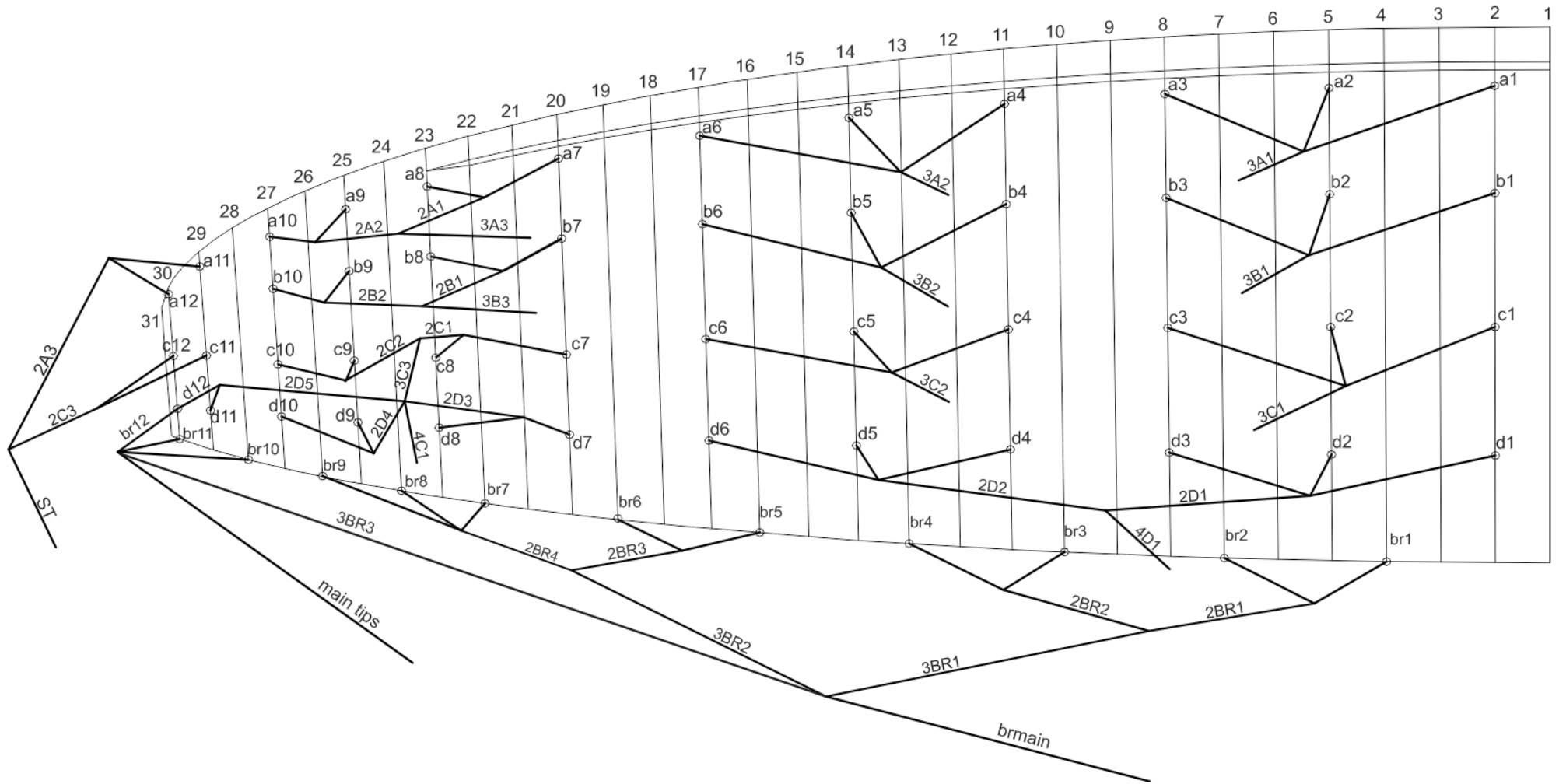


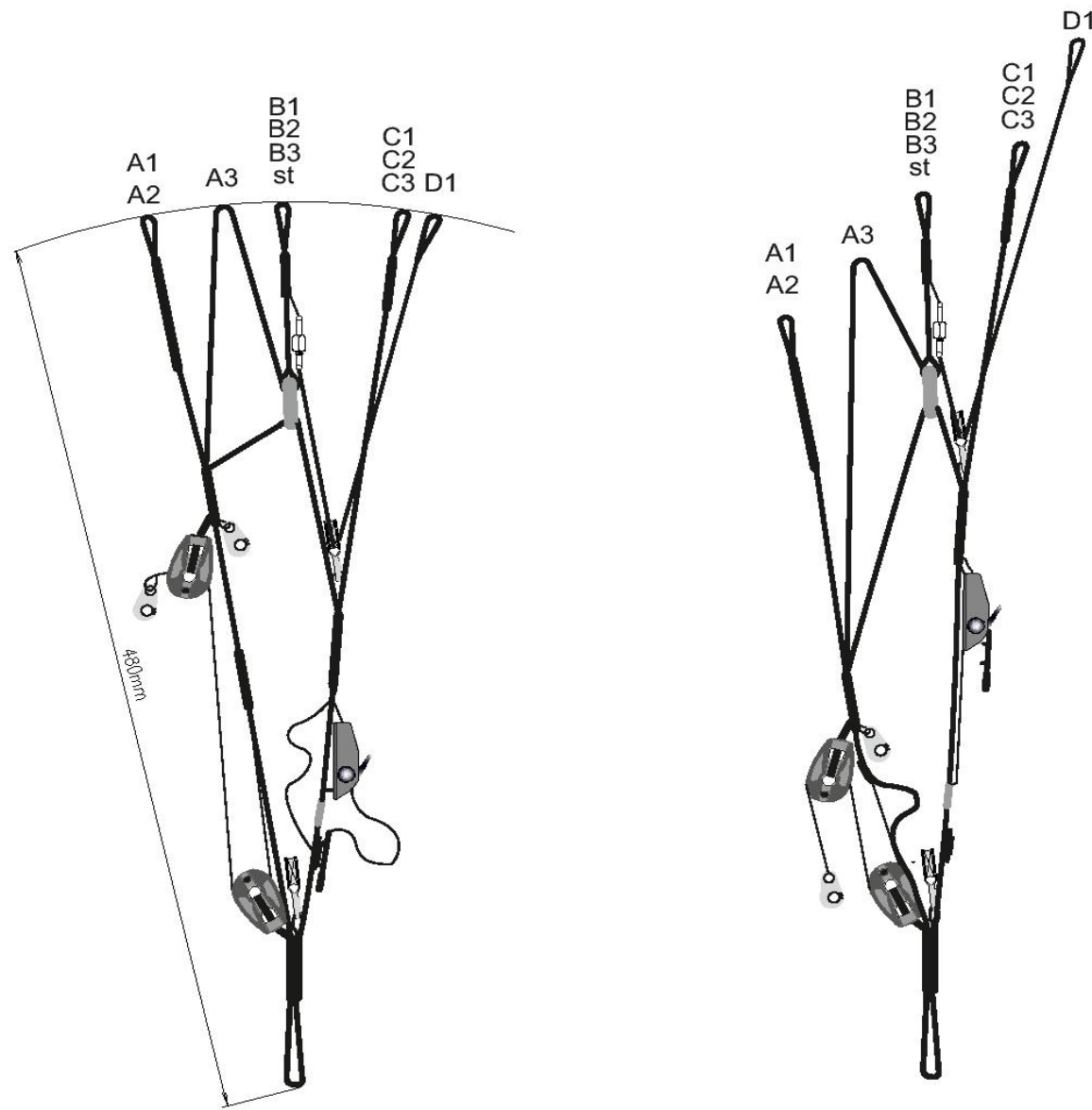
TECHNICAL DATA

| DOBERMANN | | | (14) | 16 | 17 | 18 |
|------------------|-------------------|-----|-------------|------------|------------|------------|
| CELLS | NUMBER | | 60 | 60 | 60 | 60 |
| | CLOSED | | 14 | 14 | 14 | 14 |
| | BOX | | 23 | 23 | 23 | 23 |
| FLAT | AREA | M2 | 14,5 | 16 | 17 | 18 |
| | SPAN | M | 9,4 | 9,7 | 10,02 | 10,3 |
| | ASPECT RATIO | | 5,9 | 5,9 | 5,9 | 5,9 |
| PROJECTED | AREA | M2 | 12,51 | 13,8 | 14,66 | 15,53 |
| | SPAN | | 7,55 | 7,9 | 8,17 | 8,4 |
| | ASPECT RATIO | | 4,56 | 4,56 | 4,56 | 4,56 |
| FLATTENING | | % | 15 | 15 | 15 | 15 |
| CORD | MAXIMUM | M | 1,91 | 2,01 | 2,07 | 2,13 |
| | MINIMUM | | 0,46 | 0,48 | 0,5 | 0,51 |
| | AVERAGE | | 1,54 | 1,65 | 1,70 | 1,75 |
| LINES | TOTAL METERS | M | 254 | 267 | 275 | 284 |
| | HEIGHT | M | 5,78 | 6,05 | 6,23 | 6,41 |
| | NUMBER | | 182 | 182 | 182 | 182 |
| | MAIN | | 2-1-3-4-1 | 2-1-3-4-1 | 2-1-3-4-1 | 2-1-3-4-1 |
| RISERS | NUMBER | 4 | A/a'/B/C/D | A/a'/B/C/D | A/a'/B/C/D | A/a'/B/C/D |
| | TRIMS | m/m | 135 | 135 | 135 | 135 |
| | ACCELERATOR | m/m | 180 | 180 | 180 | 180 |
| | COURSE CORRECTION | | YES | YES | YES | YES |
| TOTAL WEIGHT | MINIMUM | KG | 70 | 75 | 80 | 85 |
| IN FLIGHT | MAXIMUM | KG | 110 | 120 | 130 | 140 |
| GLIDER WEIGHT | | EN | 3,9 | 4,1 | 4,4 | 4,7 |
| CERTIFICATION | 8G MAXIMUM 145 KG | | EN 926-1 | EN 926-1 | EN 926-1 | EN 926-1 |
| | 6G MAXIMUM 193 KG | | DGAC | DGAC | DGAC | DGAC |
| | LOAD TEST | KG | 1162 | 1162 | 1162 | 1162 |

MATERIALS TECHNICAL DATA

| CANOPY | FABRIC CODE | SUPPLIER |
|-----------------------------|--------------------|--------------------------|
| UPPER SURFACE | 9017 | PORCHER IND (FRANCE) |
| BOTTOM SURFACE | N 20D MF | DOMINICO TEX CO |
| PROFILES | 9017 E29 | DOMINICO TEX CO |
| DIAGONALS | 9018 E29 | DOMINICO TEX CO |
| LOOPS | LKI - 10 | KOLON IND. (KOREA) |
| REINFORCEMENT LOOPS | W-420 | D-P (GERMANY) |
| TRAILING EDGE REINFORCEMENT | MYLAR | D-P (GERMANY) |
| THREAD | SERAFIL 60 | AMAN (GERMANY) |
| SUSPENSION LINES | FABRIC CODE | SUPPLIER |
| UPPER CASCADES | DC - 100 | LIROS GMHB (GERMANY) |
| UPPER CASCADES | DC - 060 | LIROS GMHB (GERMANY) |
| UPPER CASCADES | DC - 040 | LIROS GMHB (GERMANY) |
| UPPER CASCADES | 16330 | COUSIN (FRANCE) |
| UPPER CASCADES | 12240 | COUSIN (FRANCE) |
| UPPER CASCADES | 16140 | COUSIN (FRANCE) |
| MIDDLE CASCADES | TNL - 80 | TEIJIM LIMITED (JAPAN) |
| MIDDLE CASCADES | 16330 | COUSIN (FRANCE) |
| MIDDLE CASCADES | 12240 | COUSIN (FRANCE) |
| MIDDLE CASCADES | 16140 | COUSIN (FRANCE) |
| MAIN | 12950 | COUSIN (FRANCE) |
| MAIN | 16560 | COUSIN (FRANCE) |
| MAIN | 12240 | COUSIN (FRANCE) |
| MAIN | 12470 | COUSIN (FRANCE) |
| MAIN | TNL - 80 | TEIJIM LIMITED (JAPAN) |
| MAIN BREAK | TNL - 280 | TEIJIM LIMITED (JAPAN) |
| THREAD | SERAFIL 60 | AMAN (GERMANY) |
| RISERS | FABRIC CODE | SUPPLIER |
| MATERIAL | G-R 18 | TECNI SANGLES (FRANCE) |
| COLOR INDICATOR | PAD | TECNI SANGLES (FRANCE) |
| THREAD | V138 | COATS (ENGLAND) |
| MAILLONS | MRI4 | ANSUNG PRECISION (KOREA) |
| PULLEYS | PY - 1304 | ANSUNG PRECISION (KOREA) |





COLORS TECHNICAL DATA

| | | | | |
|---------|---|-------|----------------|------------|
| LAVANDE | 1 | RUBI | MAIN TOP | REF: NK259 |
| | 2 | LIMA | HORNS | REF: NK375 |
| | 3 | WHITE | SHADOW | REF: 001 |
| | 4 | RUBI | MAIN BOTTOM | REF: NK259 |
| | 5 | WHITE | LEADING SHADOW | REF: 001 |



| | | | | |
|-------|---|-------|----------------|------------|
| KAIPI | 1 | LIMA | MAIN TOP | REF: NK375 |
| | 2 | RUBI | HORNS | REF: NK375 |
| | 3 | WHITE | SHADOW | REF: 001 |
| | 4 | LIMA | MAIN BOTTOM | REF: NK375 |
| | 5 | WHITE | LEADING SHADOW | REF: 001 |



WING LOAD TECHNICAL DATA

| DOBERMANN (14) | | 16 | | 17 | | 18 | | | | | |
|-------------------------|---|-----------|--------|-----------|-------|-----------|---|--------|-----|---|-----|
| P.T.V. | | KG/M2 | P.T.V. | | KG/M2 | P.T.V. | | KG/M2 | | | |
| 70 | = | 4,83 | 80 | = | 5,00 | 90 | = | 5,2941 | 100 | = | 5,6 |
| 75 | = | 5,17 | 85 | = | 5,31 | 95 | = | 5,5882 | 105 | = | 5,8 |
| 80 | = | 5,52 | 90 | = | 5,63 | 100 | = | 5,8824 | 110 | = | 6,1 |
| 85 | = | 5,86 | 95 | = | 5,94 | 105 | = | 6,1765 | 115 | = | 6,4 |
| 90 | = | 6,21 | 100 | = | 6,25 | 110 | = | 6,4706 | 120 | = | 6,7 |
| 95 | = | 6,55 | 105 | = | 6,56 | 115 | = | 6,7647 | 125 | = | 6,9 |
| 100 | = | 6,90 | 110 | = | 6,88 | 120 | = | 7,0588 | 130 | = | 7,2 |
| 105 | = | 7,24 | 115 | = | 7,19 | 125 | = | 7,3529 | 135 | = | 7,5 |
| 110 | = | 7,59 | 120 | = | 7,50 | 130 | = | 7,6471 | 140 | = | 7,8 |

DOBERMANN (14)

| A | | | | B | | | | C | | | | D | | | | BRAKE | | | |
|------|-------|-----|------------|------|-------|-----|------------|------|-------|-----|------------|------|-------|-----|------------|-----------|------|-----|------------------------------|
| ref. | mat. | kg | colour m/m | ref. | mat. | kg | colour m/m | ref. | mat. | kg | colour m/m | ref. | mat. | kg | colour m/m | ref. | mat. | kg | colour m/m |
| a1 | 16330 | 145 | Red 2243 | b1 | 12240 | 115 | Red 2214 | c1 | 12240 | 115 | Red 2085 | d1 | 16140 | 70 | Red 1655 | br1 | DC | 40 | White 870 |
| a2 | 16330 | 145 | Red 2166 | b2 | 12240 | 115 | Red 2138 | c2 | 12240 | 115 | Red 2002 | d2 | 16140 | 70 | Red 1491 | br2 | DC | 40 | White 655 |
| a3 | 16330 | 145 | Red 2172 | b3 | 12240 | 115 | Red 2146 | c3 | 12240 | 115 | Red 2010 | d3 | 16140 | 70 | Red 1461 | br3 | DC | 40 | White 735 |
| a4 | 16330 | 145 | Red 2051 | b4 | 12240 | 115 | Red 2018 | c4 | 12240 | 115 | Red 1899 | d4 | 16140 | 70 | Red 1381 | br4 | DC | 40 | White 792 |
| a5 | 16330 | 145 | Red 2003 | b5 | 12240 | 115 | Red 1975 | c5 | 12240 | 115 | Red 1849 | d5 | 16140 | 70 | Red 1385 | br5 | DC | 40 | White 716 |
| a6 | 16330 | 145 | Red 2023 | b6 | 12240 | 115 | Red 2001 | c6 | 12240 | 115 | Red 1878 | d6 | 16140 | 70 | Red 1503 | br6 | DC | 40 | White 678 |
| a7 | DC | 100 | White 901 | b7 | DC | 100 | White 881 | c7 | DC | 60 | White 831 | d7 | DC | 60 | White 793 | br7 | DC | 40 | White 665 |
| a8 | DC | 60 | White 807 | b8 | DC | 60 | White 791 | c8 | DC | 60 | White 704 | d8 | DC | 60 | White 685 | br8 | DC | 40 | White 660 |
| a9 | DC | 60 | White 521 | b9 | DC | 60 | White 510 | c9 | DC | 60 | White 460 | d9 | DC | 60 | White 454 | br9 | DC | 40 | White 727 |
| a10 | DC | 60 | White 506 | b10 | DC | 60 | White 499 | c10 | DC | 60 | White 480 | d10 | DC | 60 | White 427 | br10 | DC | 40 | White 400 |
| a11 | DC | 60 | White 265 | | | | | c11 | DC | 60 | White 268 | d11 | DC | 60 | White 247 | br11 | DC | 40 | White 292 |
| a12 | DC | 60 | White 232 | | | | | c12 | DC | 40 | White 238 | d12 | DC | 40 | White 258 | br12 | DC | 40 | White 302 |
| 2A1 | 16330 | 145 | Red 627 | 2B1 | 12240 | 115 | Red 563 | 2C1 | 16140 | 70 | Red 171 | 2D1 | 12240 | 115 | Red 1206 | 2BR1 | TNL | 80 | Red 1124 |
| 2A2 | 12240 | 115 | Red 863 | 2B2 | 16140 | 70 | Red 800 | 2C2 | 16140 | 70 | Red 389 | 2D2 | 12240 | 115 | Red 1273 | 2BR2 | TNL | 80 | Red 971 |
| 2A3 | 16140 | 70 | Red 526 | | | | | 2C3 | 16140 | 70 | Red 522 | 2D3 | 16140 | 70 | Red 688 | 2BR3 | TNL | 80 | Red 1028 |
| | | | | | | | | | | | | 2D4 | 16140 | 70 | Red 853 | 2BR4 | TNL | 80 | Red 1034 |
| | | | | | | | | | | | | 2D5 | 16140 | 70 | Red 1007 | | | | |
| 3A1 | 12950 | 405 | Red 2973 | 3B1 | 16560 | 240 | Red 2929 | 3C1 | 16560 | 240 | Red 3107 | | | | | 3BR1 | TNL | 80 | Red 1683 |
| 3A2 | 12950 | 405 | Red 3069 | 3B2 | 16560 | 240 | Red 3036 | 3C2 | 16560 | 240 | Red 3191 | | | | | 3BR2 | TNL | 80 | Red 1621 |
| 3A3 | 16560 | 240 | Red 3519 | 3B3 | 16330 | 145 | Red 3561 | 3C3 | 12240 | 115 | Red 424 | | | | | 3BR3 | TNL | 80 | Red 2.833 |
| | | | | ST | 12240 | 115 | Red 3914 | 4C1 | 12470 | 200 | Red 3635 | 4D1 | 16560 | 240 | Red 2553 | main tips | TNL | 80 | Red 4695 knot point: 4495 |
| | | | | | | | | | | | | | | | | brmain | TNL | 280 | Red 2246 knot point: 2046 |



LINES TECHNICAL DATA

DOBERMANN 16

| A | | | | B | | | | C | | | | D | | | | BRAKE | | | | | | | | | |
|------|-------|-----|--------|------|------|-------|-----|--------|------|------|-------|-----|--------|------|-------|-------|-----|--------|------|-----------|------|-------------|-------|------|-------|
| ref. | mat. | kg | colour | m/m | ref. | mat. | kg | colour | m/m | ref. | mat. | kg | colour | m/m | ref. | mat. | kg | colour | m/m | | | | | | |
| a1 | 16330 | 145 | Red | 2354 | b1 | 12240 | 115 | Red | 2324 | c1 | 12240 | 115 | Red | 2189 | d1 | 16140 | 70 | Red | 1738 | br1 | DC | 40 | White | 914 | |
| a2 | 16330 | 145 | Red | 2276 | b2 | 12240 | 115 | Red | 2247 | c2 | 12240 | 115 | Red | 2103 | d2 | 16140 | 70 | Red | 1567 | br2 | DC | 40 | White | 689 | |
| a3 | 16330 | 145 | Red | 2284 | b3 | 12240 | 115 | Red | 2257 | c3 | 12240 | 115 | Red | 2114 | d3 | 16140 | 70 | Red | 1538 | br3 | DC | 40 | White | 772 | |
| a4 | 16330 | 145 | Red | 2154 | b4 | 12240 | 115 | Red | 2119 | c4 | 12240 | 115 | Red | 1994 | d4 | 16140 | 70 | Red | 1450 | br4 | DC | 40 | White | 832 | |
| a5 | 16330 | 145 | Red | 2104 | b5 | 12240 | 115 | Red | 2075 | c5 | 12240 | 115 | Red | 1943 | d5 | 16140 | 70 | Red | 1455 | br5 | DC | 40 | White | 752 | |
| a6 | 16330 | 145 | Red | 2126 | b6 | 12240 | 115 | Red | 2103 | c6 | 12240 | 115 | Red | 1974 | d6 | 16140 | 70 | Red | 1579 | br6 | DC | 40 | White | 712 | |
| a7 | DC | 100 | White | 947 | b7 | DC | 100 | White | 926 | c7 | DC | 60 | White | 872 | d7 | DC | 60 | White | 833 | br7 | DC | 40 | White | 698 | |
| a8 | DC | 60 | White | 847 | b8 | DC | 60 | White | 831 | c8 | DC | 60 | White | 740 | d8 | DC | 60 | White | 720 | br8 | DC | 40 | White | 693 | |
| a9 | DC | 60 | White | 547 | b9 | DC | 60 | White | 536 | c9 | DC | 60 | White | 483 | d9 | DC | 60 | White | 477 | br9 | DC | 40 | White | 763 | |
| a10 | DC | 60 | White | 531 | b10 | DC | 60 | White | 525 | c10 | DC | 60 | White | 504 | d10 | DC | 60 | White | 448 | br10 | DC | 40 | White | 420 | |
| a11 | DC | 60 | White | 279 | | | | | | c11 | DC | 60 | White | 281 | d11 | DC | 60 | White | 259 | br11 | DC | 40 | White | 307 | |
| a12 | DC | 60 | White | 244 | | | | | | c12 | DC | 40 | White | 250 | d12 | DC | 40 | White | 271 | br12 | DC | 40 | White | 317 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2A1 | 16330 | 145 | Red | 658 | 2B1 | 12240 | 115 | Red | 591 | 2C1 | 16140 | 70 | Red | 180 | 2D1 | 12240 | 115 | Red | 1278 | 2BR1 | TNL | 80 | Red | 1179 | |
| 2A2 | 12240 | 115 | Red | 907 | 2B2 | 16140 | 70 | Red | 841 | 2C2 | 16140 | 70 | Red | 409 | 2D2 | 12240 | 115 | Red | 1353 | 2BR2 | TNL | 80 | Red | 1021 | |
| 2A3 | 16140 | 70 | Red | 552 | | | | | | 2C3 | 16140 | 70 | Red | 549 | 2D3 | 16140 | 70 | Red | 722 | 2BR3 | TNL | 80 | Red | 1080 | |
| | | | | | | | | | | | | | | 2D4 | 16140 | 70 | Red | 896 | 2BR4 | TNL | 80 | Red | 1089 | | |
| | | | | | | | | | | | | | | 2D5 | 16140 | 70 | Red | 1058 | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3A1 | 12950 | 405 | Red | 3148 | 3B1 | 16560 | 240 | Red | 3102 | 3C1 | 16560 | 240 | Red | 3289 | | | | | | 3BR1 | TNL | 80 | Red | 1766 | |
| 3A2 | 12950 | 405 | Red | 3253 | 3B2 | 16560 | 240 | Red | 3219 | 3C2 | 16560 | 240 | Red | 3382 | | | | | | | 3BR2 | TNL | 80 | Red | 1704 |
| 3A3 | 16560 | 240 | Red | 3728 | 3B3 | 16330 | 145 | Red | 3771 | 3C3 | 12240 | 115 | Red | 446 | | | | | | | 3BR3 | TNL | 80 | Red | 2.981 |
| | | | | | ST | 12240 | 115 | Red | 4143 | 4C1 | 12470 | 200 | Red | 3851 | 4D1 | 16560 | 240 | Red | 2695 | main tips | TNL | 80 | Red | 4954 | |
| | | | | | | | | | | | | | | | | | | | | | | knot point: | 4754 | | |
| | | | | | | | | | | | | | | | | | | | | brmain | TNL | 280 | Red | 2379 | |
| | | | | | | | | | | | | | | | | | | | | | | knot point: | 2179 | | |

LINES TECHNICAL DATA

DOBERMANN 17

| A | | | | B | | | | C | | | | D | | | | BRAKE | | | | | | | | |
|----------|-------|-----|--------|----------|------|-------|-----|----------|------|------|-------|----------|--------|------|-------|--------------|-----|--------|------|-----------|-------------|-------------|-------|-------|
| ref. | mat. | kg | colour | m/m | ref. | mat. | kg | colour | m/m | ref. | mat. | kg | colour | m/m | ref. | mat. | kg | colour | m/m | | | | | |
| a1 | 16330 | 145 | Red | 2426 | b1 | 12240 | 115 | Red | 2395 | c1 | 12240 | 115 | Red | 2255 | d1 | 16140 | 70 | Red | 1791 | br1 | DC | 40 | White | 942 |
| a2 | 16330 | 145 | Red | 2346 | b2 | 12240 | 115 | Red | 2316 | c2 | 12240 | 115 | Red | 2168 | d2 | 16140 | 70 | Red | 1615 | br2 | DC | 40 | White | 711 |
| a3 | 16330 | 145 | Red | 2356 | b3 | 12240 | 115 | Red | 2327 | c3 | 12240 | 115 | Red | 2180 | d3 | 16140 | 70 | Red | 1586 | br3 | DC | 40 | White | 795 |
| a4 | 16330 | 145 | Red | 2219 | b4 | 12240 | 115 | Red | 2183 | c4 | 12240 | 115 | Red | 2055 | d4 | 16140 | 70 | Red | 1494 | br4 | DC | 40 | White | 858 |
| a5 | 16330 | 145 | Red | 2169 | b5 | 12240 | 115 | Red | 2139 | c5 | 12240 | 115 | Red | 2003 | d5 | 16140 | 70 | Red | 1500 | br5 | DC | 40 | White | 774 |
| a6 | 16330 | 145 | Red | 2192 | b6 | 12240 | 115 | Red | 2168 | c6 | 12240 | 115 | Red | 2035 | d6 | 16140 | 70 | Red | 1628 | br6 | DC | 40 | White | 735 |
| a7 | DC | 100 | White | 976 | b7 | DC | 100 | White | 954 | c7 | DC | 60 | White | 899 | d7 | DC | 60 | White | 858 | br7 | DC | 40 | White | 719 |
| a8 | DC | 60 | White | 873 | b8 | DC | 60 | White | 856 | c8 | DC | 60 | White | 763 | d8 | DC | 60 | White | 742 | br8 | DC | 40 | White | 715 |
| a9 | DC | 60 | White | 564 | b9 | DC | 60 | White | 552 | c9 | DC | 60 | White | 498 | d9 | DC | 60 | White | 492 | br9 | DC | 40 | White | 787 |
| a10 | DC | 60 | White | 548 | b10 | DC | 60 | White | 541 | c10 | DC | 60 | White | 519 | d10 | DC | 60 | White | 462 | br10 | DC | 40 | White | 433 |
| a11 | DC | 60 | White | 287 | | | | | | c11 | DC | 60 | White | 290 | d11 | DC | 60 | White | 267 | br11 | DC | 40 | White | 316 |
| a12 | DC | 60 | White | 251 | | | | | | c12 | DC | 40 | White | 258 | d12 | DC | 40 | White | 280 | br12 | DC | 40 | White | 326 |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| 2A1 | 16330 | 145 | Red | 679 | 2B1 | 12240 | 115 | Red | 609 | 2C1 | 16140 | 70 | Red | 185 | 2D1 | 12240 | 115 | Red | 1325 | 2BR1 | TNL | 80 | Red | 1213 |
| 2A2 | 12240 | 115 | Red | 935 | 2B2 | 16140 | 70 | Red | 867 | 2C2 | 16140 | 70 | Red | 422 | 2D2 | 12240 | 115 | Red | 1404 | 2BR2 | TNL | 80 | Red | 1053 |
| 2A3 | 16140 | 70 | Red | 569 | | | | | | 2C3 | 16140 | 70 | Red | 565 | 2D3 | 16140 | 70 | Red | 744 | 2BR3 | TNL | 80 | Red | 1113 |
| | | | | | | | | | | | | | | 2D4 | 16140 | 70 | Red | 924 | 2BR4 | TNL | 80 | Red | 1124 | |
| | | | | | | | | | | | | | | 2D5 | 16140 | 70 | Red | 1090 | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| 3A1 | 12950 | 405 | Red | 3260 | 3B1 | 16560 | 240 | Red | 3212 | 3C1 | 16560 | 240 | Red | 3405 | | | | | | 3BR1 | TNL | 80 | Red | 1820 |
| 3A2 | 12950 | 405 | Red | 3372 | 3B2 | 16560 | 240 | Red | 3336 | 3C2 | 16560 | 240 | Red | 3504 | | | | | | 3BR2 | TNL | 80 | Red | 1757 |
| 3A3 | 16560 | 240 | Red | 3861 | 3B3 | 16330 | 145 | Red | 3906 | 3C3 | 12240 | 115 | Red | 459 | | | | | | 3BR3 | TNL | 80 | Red | 3.076 |
| | | | | | ST | 12240 | 115 | Red | 4290 | 4C1 | 12470 | 200 | Red | 3988 | 4D1 | 16560 | 240 | Red | 2787 | main tips | TNL | 80 | Red | 5121 |
| | | | | | | | | | | | | | | | | | | | | | knot point: | | 4921 | |
| | | | | | | | | | | | | | | | | | | | | brmain | TNL | 280 | Red | 2464 |
| | | | | | | | | | | | | | | | | | | | | | | knot point: | | 2264 |

LINES TECHNICAL DATA

DOBERMANN 18

| A | | | | B | | | | C | | | | D | | | | BRAKE | | | |
|----------|-------|-----|------------|----------|-------|-----|------------|----------|-------|-----|------------|----------|-------|-----|------------|--------------|------|------|------------|
| ref. | mat. | kg | colour m/m | ref. | mat. | kg | colour m/m | ref. | mat. | kg | colour m/m | ref. | mat. | kg | colour m/m | ref. | mat. | kg | colour m/m |
| a1 | 16330 | 145 | Red 2496 | b1 | 12240 | 115 | Red 2463 | c1 | 12240 | 115 | Red 2320 | d1 | 16140 | 70 | Red 1842 | br1 | DC | 40 | White 969 |
| a2 | 16330 | 145 | Red 2415 | b2 | 12240 | 115 | Red 2384 | c2 | 12240 | 115 | Red 2231 | d2 | 16140 | 70 | Red 1663 | br2 | DC | 40 | White 732 |
| a3 | 16330 | 145 | Red 2425 | b3 | 12240 | 115 | Red 2396 | c3 | 12240 | 115 | Red 2245 | d3 | 16140 | 70 | Red 1634 | br3 | DC | 40 | White 817 |
| a4 | 16330 | 145 | Red 2283 | b4 | 12240 | 115 | Red 2246 | c4 | 12240 | 115 | Red 2114 | d4 | 16140 | 70 | Red 1537 | br4 | DC | 40 | White 883 |
| a5 | 16330 | 145 | Red 2232 | b5 | 12240 | 115 | Red 2201 | c5 | 12240 | 115 | Red 2061 | d5 | 16140 | 70 | Red 1543 | br5 | DC | 40 | White 797 |
| a6 | 16330 | 145 | Red 2256 | b6 | 12240 | 115 | Red 2232 | c6 | 12240 | 115 | Red 2095 | d6 | 16140 | 70 | Red 1675 | br6 | DC | 40 | White 756 |
| a7 | DC | 100 | White 1004 | b7 | DC | 100 | White 982 | c7 | DC | 60 | White 925 | d7 | DC | 60 | White 883 | br7 | DC | 40 | White 739 |
| a8 | DC | 60 | White 899 | b8 | DC | 60 | White 881 | c8 | DC | 60 | White 785 | d8 | DC | 60 | White 764 | br8 | DC | 40 | White 735 |
| a9 | DC | 60 | White 580 | b9 | DC | 60 | White 568 | c9 | DC | 60 | White 512 | d9 | DC | 60 | White 506 | br9 | DC | 40 | White 810 |
| a10 | DC | 60 | White 564 | b10 | DC | 60 | White 556 | c10 | DC | 60 | White 534 | d10 | DC | 60 | White 475 | br10 | DC | 40 | White 445 |
| a11 | DC | 60 | White 296 | | | | | c11 | DC | 60 | White 298 | d11 | DC | 60 | White 275 | br11 | DC | 40 | White 325 |
| a12 | DC | 60 | White 258 | | | | | c12 | DC | 40 | White 265 | d12 | DC | 40 | White 288 | br12 | DC | 40 | White 336 |
| | | | | | | | | | | | | | | | | | | | |
| 2A1 | 16330 | 145 | Red 698 | 2B1 | 12240 | 115 | Red 627 | 2C1 | 16140 | 70 | Red 190 | 2D1 | 12240 | 115 | Red 1369 | 2BR1 | TNL | 80 | Red 1247 |
| 2A2 | 12240 | 115 | Red 962 | 2B2 | 16140 | 70 | Red 892 | 2C2 | 16140 | 70 | Red 434 | 2D2 | 12240 | 115 | Red 1453 | 2BR2 | TNL | 80 | Red 1084 |
| 2A3 | 16140 | 70 | Red 585 | | | | | 2C3 | 16140 | 70 | Red 581 | 2D3 | 16140 | 70 | Red 766 | 2BR3 | TNL | 80 | Red 1146 |
| | | | | | | | | | | | | 2D4 | 16140 | 70 | Red 951 | 2BR4 | TNL | 80 | Red 1158 |
| | | | | | | | | | | | | 2D5 | 16140 | 70 | Red 1122 | | | | |
| | | | | | | | | | | | | | | | | | | | |
| 3A1 | 12950 | 405 | Red 3369 | 3B1 | 16560 | 240 | Red 3320 | 3C1 | 16560 | 240 | Red 3518 | | | | | 3BR1 | TNL | 80 | Red 1872 |
| 3A2 | 12950 | 405 | Red 3486 | 3B2 | 16560 | 240 | Red 3449 | 3C2 | 16560 | 240 | Red 3623 | | | | | 3BR2 | TNL | 80 | Red 1809 |
| 3A3 | 16560 | 240 | Red 3991 | 3B3 | 16330 | 145 | Red 4037 | 3C3 | 12240 | 115 | Red 472 | | | | | 3BR3 | TNL | 80 | Red 3.212 |
| | | | | ST | 12240 | 115 | Red 4433 | 4C1 | 12470 | 200 | Red 4122 | 4D1 | 16560 | 240 | Red 2875 | main tips | TNL | 80 | Red 5328 |
| | | | | | | | | | | | | | | | | knot point: | | 5128 | |
| | | | | | | | | | | | | | | | | brmain | TNL | 280 | Red 2547 |
| | | | | | | | | | | | | | | | | knot point: | | 2347 | |

DOBERMANN (14)

LINES HEIGHT m/m

| | A | B | C | D | br |
|----|------|------|------|------|------|
| 1 | 5216 | 5142 | 5193 | 5414 | 5723 |
| 2 | 5139 | 5067 | 5109 | 5249 | 5508 |
| 3 | 5145 | 5075 | 5117 | 5220 | 5435 |
| 4 | 5120 | 5054 | 5091 | 5206 | 5491 |
| 5 | 5072 | 5011 | 5041 | 5211 | 5411 |
| 6 | 5092 | 5037 | 5069 | 5329 | 5372 |
| 7 | 5047 | 5005 | 5061 | 5116 | 5366 |
| 8 | 4953 | 4914 | 4935 | 5008 | 5361 |
| 9 | 4904 | 4871 | 4909 | 4943 | 5427 |
| 10 | 4889 | 4860 | 4929 | 4915 | 4895 |
| 11 | 4705 | | 4704 | 4889 | 4787 |
| 12 | 4671 | | 4674 | 4900 | 4797 |

RISERS LENGHT m/m

| | A | B | C | D | |
|--|-----|-----|-----|-----|----------------|
| | 480 | 480 | 480 | 480 | STANDARD |
| | 480 | 525 | 570 | 615 | TRIMMER OPENED |
| | 300 | 395 | 480 | 565 | ACCELERATED |

DOBERMANN 16

LINES HEIGHT m/m

| | A | B | C | D | br |
|----|------|------|------|------|------|
| 1 | 5502 | 5426 | 5478 | 5711 | 6038 |
| 2 | 5424 | 5348 | 5392 | 5540 | 5813 |
| 3 | 5432 | 5358 | 5402 | 5511 | 5738 |
| 4 | 5407 | 5337 | 5376 | 5498 | 5798 |
| 5 | 5358 | 5294 | 5325 | 5503 | 5715 |
| 6 | 5380 | 5322 | 5356 | 5627 | 5676 |
| 7 | 5333 | 5288 | 5348 | 5406 | 5670 |
| 8 | 5234 | 5193 | 5216 | 5293 | 5665 |
| 9 | 5182 | 5148 | 5188 | 5224 | 5736 |
| 10 | 5166 | 5137 | 5209 | 5195 | 5174 |
| 11 | 4974 | | 4973 | 5167 | 5061 |
| 12 | 4939 | | 4942 | 5179 | 5010 |

RISERS LENGHT m/m

| | A | B | C | D | |
|--|-----|-----|-----|-----|----------------|
| | 480 | 480 | 480 | 480 | STANDARD |
| | 480 | 525 | 570 | 615 | TRIMMER OPENED |
| | 300 | 395 | 480 | 565 | ACCELERATED |

DOBERMANN 17

LINES HEIGHT m/m

| | A | B | C | D | br |
|----|----------|----------|----------|----------|-----------|
| 1 | 5686 | 5607 | 5660 | 5902 | 6240 |
| 2 | 5607 | 5529 | 5573 | 5726 | 6009 |
| 3 | 5616 | 5540 | 5585 | 5698 | 5932 |
| 4 | 5591 | 5519 | 5559 | 5685 | 5995 |
| 5 | 5541 | 5475 | 5507 | 5690 | 5910 |
| 6 | 5564 | 5504 | 5539 | 5818 | 5870 |
| 7 | 5516 | 5470 | 5532 | 5591 | 5865 |
| 8 | 5414 | 5372 | 5396 | 5475 | 5860 |
| 9 | 5360 | 5325 | 5367 | 5404 | 5933 |
| 10 | 5344 | 5314 | 5389 | 5374 | 5353 |
| 11 | 5146 | | 5146 | 5346 | 5237 |
| 12 | 5110 | | 5113 | 5358 | 5247 |

RISERS LENGHT m/m

| | A | B | C | D | |
|--|----------|----------|----------|----------|----------------|
| | 480 | 480 | 480 | 480 | STANDARD |
| | 480 | 525 | 570 | 615 | TRIMMER OPENED |
| | 300 | 395 | 480 | 565 | ACCELERATED |

DOBERMANN 18

LINES HEIGHT m/m

| | A | B | C | D | br |
|----|----------|----------|----------|----------|-----------|
| 1 | 5865 | 5783 | 5838 | 6087 | 6436 |
| 2 | 5784 | 5704 | 5749 | 5907 | 6198 |
| 3 | 5794 | 5716 | 5763 | 5879 | 6120 |
| 4 | 5770 | 5696 | 5737 | 5866 | 6186 |
| 5 | 5718 | 5651 | 5684 | 5871 | 6099 |
| 6 | 5743 | 5681 | 5718 | 6003 | 6059 |
| 7 | 5694 | 5646 | 5710 | 5771 | 6054 |
| 8 | 5588 | 5545 | 5570 | 5652 | 6050 |
| 9 | 5534 | 5497 | 5541 | 5579 | 6125 |
| 10 | 5517 | 5486 | 5563 | 5549 | 5527 |
| 11 | 5314 | | 5313 | 5519 | 5407 |
| 12 | 5276 | | 5280 | 5532 | 5418 |

RISERS LENGHT m/m

| | A | B | C | D | |
|--|----------|----------|----------|----------|----------------|
| | 480 | 480 | 480 | 480 | STANDARD |
| | 480 | 525 | 570 | 615 | TRIMMER OPENED |
| | 300 | 395 | 480 | 565 | ACCELERATED |

SUSPENSION TECHNICAL DATA

DOBERMANN

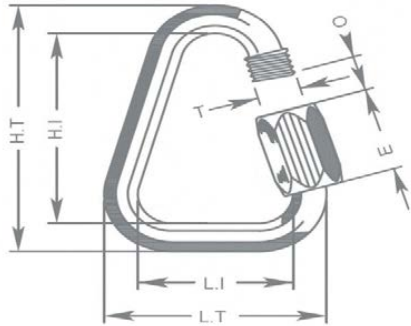
| | | | | | | | | | | | | |
|-------------------------------------|--------------|---------|------|---------|-----------|-----------|---------|---------|---------|---------|---------|---------|
| MATERIAL CODE | | DC | DC | DC | TNL | TNL | 16140 | 12240 | 16330 | 12470 | 12950 | 16560 |
| STRENGTH CODE | | 40 | 60 | 100 | 080 | 280 | 70 | 115 | 145 | 200 | 405 | 240 |
| DIAMETER m/m | ø | 0,5 | 0,6 | 0,8 | 1,1 | 1,8 | 0,7 | 0,9 | 1 | 1,2 | 1,6 | 1,4 |
| CORE MATERIAL | | DYNEEMA | | DYNEEMA | Technora | Technora | VECTRAM | VECTRAM | VECTRAM | VECTRAM | VECTRAM | VECTRAM |
| SLEEVE MATERIAL | | NO | NO | NO | Polyester | Polyester | | | | | | |
| WEIGHT G/M | TOTAL | 0,19 | 0,24 | 0,42 | 1,1 | 2,7 | 0,39 | 0,56 | 0,77 | 1,17 | 2 | 1,59 |
| BREAKING STRENGTH | MINIMUM | 40 | 60 | 100 | 80 | 280 | 70 | 115 | 145 | 200 | 405 | 240 |
| | MAXIMUM | 48 | 84 | 110 | 92 | 320 | 74 | 122 | 153 | 215 | 430 | 255 |
| STRENGTH AFTER | | | | | | | | | | | | |
| 5.000 BENDING | TEST EN | 33 | 74 | 99 | 36,7 | 134,7 | 31 | 60,9 | 77,5 | 112,1 | 237,5 | 185,5 |
| CYCLES | | | | | | | | | | | | |
| ELONGATION AT | 5 daN en % | | | | 0,3 | 0,2 | 0,75 | 0,2 | 0,2 | 0,2 | 0,35 | 0,1 |
| | 10 daN en % | | 0,43 | 0,36 | 0,5 | 0,3 | 1 | 0,4 | 0,4 | 0,3 | 0,4 | 0,3 |
| | 15 daN en % | | | | 0,7 | 0,4 | 1 | 0,4 | 0,7 | 0,4 | 0,5 | 0,4 |
| | 20 daN en % | | | | 1 | 0,4 | 1,4 | 0,9 | 0,8 | 0,5 | 0,7 | 0,5 |
| | 25 daN en % | | | | 1,3 | 0,5 | 1,75 | 1 | 0,9 | 0,6 | 0,9 | 0,6 |
| | 30 daN en % | | 1,2 | 1 | 2,3 | 0,9 | 2,75 | 1,6 | 1,5 | 1 | 1 | 1 |
| | 75 daN en % | | | | 2,8 | 1,3 | | 2 | 2 | 1,4 | 1,3 | 1,2 |
| | 100 daN en % | | | | | 1,7 | | 3 | 2,4 | 1,7 | 1,7 | 1,5 |
| | 125 daN en % | | | | | 2 | | 3 | 3 | 2,1 | 1,8 | 1,9 |
| | 150 daN en % | | | | | 2,3 | | | 3,6 | 2,4 | 1,9 | 2,1 |
| | 175 daN en % | | | | | 2,7 | | | | 2,8 | 2 | 2,4 |
| | 200 daN en % | | | | | 2,8 | | | | 3,2 | 2,4 | 2,7 |
| Elongation max. breaking strength % | | | 3,2 | 3,4 | 3 | 4,1 | 3,7 | 3,5 | 3,7 | 3,4 | 4,2 | 3,5 |

MAILLON & PULLEY TECHNICAL DATA

DESCRIPTION

| | |
|----------|-----------------|
| MAILLON | DELTA |
| CODE | MRI4 |
| MATERIAL | STAINLESS STEEL |
| SIZE | 4,3 m/m |
| WEIGHT | 12 G/PIECE |

TECHNICAL SPECIFICATIONS



| | |
|---------------|-----|
| DIMENSIONS | m/m |
| L.T. | 28 |
| L.I. | 20 |
| H.T. | 38 |
| H.I. | 30 |
| O | 4 |
| E | 11 |
| T | 4 |
| LOAD | KG |
| WORKING LIMIT | 150 |
| BREAKING | 750 |

| | |
|--------------------------|----------|
| MATERIAL | |
| AISI 304 STAINLESS STEEL | STANDARD |

CLOSING APPLIED BY MANUAL & ENTIRE SCREWING OF THE NUT
TO GUARANTEE THE HIGHEST SAFETY (NO THREAD SHOULD BE OBVIOUS)

SYSTEMATIC CONTROL OF MAILLON QUICK-LINKS BEFORE EVERY FLIGHT

THREAD TECHNICAL DATA

SAIL MAKING

| | |
|-------------------|--------------------------|
| NAME | SERAFIL |
| Nº OF REFERENCE | 60 |
| MATERIAL | POLYESTER |
| TYPE OF FINISH | SILK |
| LINEAR DENSITY | NM 61 / 3 (DTEX 163 * 3) |
| BREAKING STRENGTH | 3,000 CN |
| ELONGATION | 17,00% |

PROPIETIES SERAFIL

| | |
|---------------------------|---------------------|
| SOLIDITY ARTIFICIAL LIGTH | ISO 105 B02 > 5 - 6 |
| SOLIDITY SWEAT | ISO 105 E04 > 4 |
| SOLIDITY WASHING | ISO 105 C04 > 3 |
| SOLIDITY GRAZE IN DRY | ISO 105 X12 > 4 |
| SOLIDITY WASHING IN DRY | ISO 105 D01 > 3 - 4 |

| | |
|---------------------------|----|
| TREATMENT WATER REPELLENT | WR |
|---------------------------|----|

RISERS MAKING

| | |
|-------------------|---------------------|
| NAME | COATS BONDED C.F.P. |
| Nº OF REFERENCE | V138 |
| MATERIAL | POLYESTER |
| TYPE OF FINISH | SILK |
| BREAKING STRENGTH | 9,5 KG |
| ELONGATION | 19% |

RISERS

| | |
|-------------------|------------|
| Nº OF REFERENCE | 18 |
| MATERIAL | POLYESTER |
| WIDTH | 18 M/M |
| THICKNESS | 1,52 M/M |
| BREAKING STRENGTH | 1,100DAN |
| ELONGATION | MAX. 15% |
| WEIGHT | 25 G* L.M. |
| COLOR | BLACK |

COLOR INDICATOR

| | |
|-------------------|-------------|
| Nº OF REFERENCE | IC-G 1-2 |
| MATERIAL | POLYESTER |
| WIDTH | 70 M/M |
| THICKNESS | 0,80 M/M |
| BREAKING STRENGTH | 130 DN |
| ELONGATION | 35 % |
| WEIGHT | 32 G * L.M. |
| COLOR | GREEN |

LOOPS

| | |
|-------------------|----------|
| Nº OF REFERENCE | LKI - 10 |
| MATERIAL | NYLON |
| WIDTH | 10 M/M |
| BREAKING STRENGTH | 84 KG |
| ELONGATION | 30 % |
| WEIGHT | 5,5 G/M |
| COLOR | WHITE |

