

## Line strength verification 2-3 liners

|                   |            |      |        |
|-------------------|------------|------|--------|
| Manufacturer      | Nova       |      |        |
| Type              | Mentor 5 L |      |        |
| Max. weight       | 130 kg     |      |        |
| Required strength | 14         | 1785 | kg daN |

### Reference:

for solo paragliders min. 1.400 daN  
for biplace min. 2.000 daN

|                                  |           |           |          |          |          |          |          |          |          |           |
|----------------------------------|-----------|-----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| Type of line                     | PPSL 160  | PPSL 191  | PPSLS65  | TSL 140  | ULT85    | U-120    | U-90     | U-70     | U-50     | 7850-240  |
| Line manufacturer                | Liros     | Edelrid   | Liros    | Edelrid  | Cousin   | Edelrid  | Edelrid  | Edelrid  | Edelrid  | Edelrid   |
| Test number of line bending test |           |           |          |          |          |          |          |          |          |           |
| Diameter                         | 1,3 mm    | 1,2 mm    | 0,8 mm   | 1,3 mm   | 1,0 mm   | 1,0 mm   | 0,8 mm   | 0,8 mm   | 0,7 mm   | 2,1 mm    |
| Material core                    | Dyneema   | Dyneema   | Dyneema  | Kevlar   | Dyneema  | Kevlar   | Kevlar   | Dyneema  | Kevlar   | Dyneema   |
| Material cladding                |           |           |          |          |          |          |          |          |          |           |
| Line strength bended             | 140,7 daN | 138,9 daN | 45,0 daN | 45,1 daN | 57,0 daN | 94,3 daN | 73,0 daN | 41,5 daN | 42,0 daN | 131,7 daN |

### Strength verification

#### Verification of lower line strength after bending test

|                        | type of line | quantity  | strength bended daN | Min. load       |                    |
|------------------------|--------------|-----------|---------------------|-----------------|--------------------|
| Level A                | PPSL 160     | 6         | 140,7               |                 | 844,2 daN          |
| Level A 2nd line value |              |           |                     |                 | 0,0 daN            |
| Level A 3rd line value |              |           |                     |                 | 0,0 daN            |
| Level B                | PPSL 160     | 6         | 140,7               |                 | 844,2 daN          |
| Level B 2nd line value | U-120        | 2         | 94,3                |                 | 188,6 daN          |
| Level B 3rd line value |              | 0         | 0,0                 |                 | 0,0 daN            |
| Level C                | U-120        | 6         | 94,3                |                 | 565,8 daN          |
| Level C 2nd line value |              |           |                     |                 | 0,0 daN            |
| Level C 3rd line value |              | 0         | 0,0                 |                 | 0,0 daN            |
| Level D                |              | 0         | 0,0                 |                 | 0,0 daN            |
| Level D 2nd line value |              | 0         | 0,0                 |                 | 0,0 daN            |
| Level D 3rd line value |              | 0         | 0,0                 |                 | 0,0 daN            |
| Level E                |              | 0         | 0,0                 |                 | 0,0 daN            |
| Level E 2nd line value |              | 0         | 0,0                 |                 | 0,0 daN            |
| Level E 3rd line value |              | 0         | 0,0                 |                 | 0,0 daN            |
| <b>Total</b>           |              | <b>20</b> |                     | <b>1785 daN</b> | <b>2442,80 daN</b> |

### Terms

lower line

1. gallery

2. gallery

3. gallery

#### Verification of steering lines strength

|             | type of line | quantity | strength bended daN | Min. load | Steering line x line strength > 75 daN each side |
|-------------|--------------|----------|---------------------|-----------|--------------------------------------------------|
| Lower Level | 7850-240     | 2        | 240,0               | 150 daN   | 480,0 daN                                        |
| 1. Gallery  | ULT85        | 4        | 57,0                | 150 daN   | 228,0 daN                                        |
| 2. Gallery  | PPSLS65      | 8        | 45,0                | 150 daN   | 360,0 daN                                        |
| 3. Gallery  | PPSLS65      | 16       | 45,0                | 150 daN   | 720,0 daN                                        |

#### Verification of gallery lines strength

|                        | lower line        | 1. gallery |                     |                   | 2. gallery |                     |                   | 3. gallery |                     |                |
|------------------------|-------------------|------------|---------------------|-------------------|------------|---------------------|-------------------|------------|---------------------|----------------|
|                        | strength          | quantity   | strength bended daN | result            | quantity   | strength bended daN | result            | quantity   | strength bended daN | result         |
| Level A                | 844,2 daN         | 8          | 94,3                | 754,4 daN         | 8          | 94,3                | 754,4 daN         | 0          | 0,0                 | 0,0 daN        |
| Level A 2nd line value | 0,0 daN           | 6          | 73,0                | 438,0 daN         | 12         | 42,0                | 504,0 daN         | 0          | 0,0                 | 0,0 daN        |
| Level A 3rd line value | 0,0 daN           | 0          | 0,0                 | 0,0 daN           |            |                     | 0,0 daN           | 0          | 0,0                 | 0,0 daN        |
| <b>Total A</b>         | <b>844,2 daN</b>  | <b>14</b>  |                     | <b>1192,4 daN</b> | <b>20</b>  |                     | <b>1258,4 daN</b> | <b>0</b>   |                     | <b>0,0 daN</b> |
| Level B                | 844,2 daN         | 8          | 73,0                | 584,0 daN         | 8          | 73,0                | 584,0 daN         | 0          | 0,0                 | 0,0 daN        |
| Level B 2nd line value | 188,6 daN         | 6          | 41,5                | 249,0 daN         | 12         | 42,0                | 504,0 daN         | 0          | 0,0                 | 0,0 daN        |
| Level B 3rd line value | 0,0 daN           | 8          | 45,0                | 360,0 daN         | 16         | 45,0                | 720,0 daN         | 0          | 0,0                 | 0,0 daN        |
| <b>Total B</b>         | <b>1032,8 daN</b> | <b>22</b>  |                     | <b>1193,0 daN</b> | <b>36</b>  |                     | <b>1808,0 daN</b> | <b>0</b>   |                     | <b>0,0 daN</b> |
| Level C                | 565,8 daN         | 8          | 73,0                | 584,0 daN         | 8          | 73,0                | 584,0 daN         | 0          | 0,0                 | 0,0 daN        |
| Level C 2nd line value | 0,0 daN           | 6          | 41,5                | 249,0 daN         | 12         | 42,0                | 504,0 daN         | 0          | 0,0                 | 0,0 daN        |
| Level C 3rd line value | 0,0 daN           | 0          | 0,0                 | 0,0 daN           |            |                     | 0,0 daN           | 0          | 0,0                 | 0,0 daN        |
| <b>Total C</b>         | <b>565,8 daN</b>  | <b>14</b>  |                     | <b>833,0 daN</b>  | <b>20</b>  |                     | <b>1088,0 daN</b> | <b>0</b>   |                     | <b>0,0 daN</b> |
| Level D                | 0,0 daN           | 10         | 42,0                | 420,0 daN         |            |                     | 0,0 daN           | 0          | 0,0                 | 0,0 daN        |
| Level D 2nd line value | 0,0 daN           | 0          | 0,0                 | 0,0 daN           |            |                     | 0,0 daN           | 0          | 0,0                 | 0,0 daN        |
| Level D 3rd line value | 0,0 daN           | 0          | 0,0                 | 0,0 daN           |            |                     | 0,0 daN           | 0          | 0,0                 | 0,0 daN        |
| <b>Total D</b>         | <b>0,0 daN</b>    | <b>10</b>  |                     | <b>420,0 daN</b>  | <b>0</b>   |                     | <b>0,0 daN</b>    | <b>0</b>   |                     | <b>0,0 daN</b> |
| Level E                | 0,0 daN           | 0          | 0,0                 | 0,0 daN           | 0          | 0,0                 | 0,0 daN           | 0          | 0,0                 | 0,0 daN        |
| Level E 2nd line value | 0,0 daN           | 0          | 0,0                 | 0,0 daN           | 0          | 0,0                 | 0,0 daN           | 0          | 0,0                 | 0,0 daN        |
| Level E 3rd line value | 0,0 daN           | 0          | 0,0                 | 0,0 daN           | 0          | 0,0                 | 0,0 daN           | 0          | 0,0                 | 0,0 daN        |
| <b>Total E</b>         | <b>0,0 daN</b>    | <b>0</b>   |                     | <b>0,0 daN</b>    | <b>0</b>   |                     | <b>0,0 daN</b>    | <b>0</b>   |                     | <b>0,0 daN</b> |
| <b>Total</b>           | <b>2442,8 daN</b> | <b>60</b>  |                     | <b>3638,4 daN</b> | <b>76</b>  |                     | <b>4154,4 daN</b> | <b>0</b>   |                     | <b>0,0 daN</b> |

Diese Berechnung wurde elektronisch erstellt und ist ohne Unterschrift gültig

This calculation was issued electronically and is valid without signature