

## Line strength verification 2-3 liners

|                   |        |          |
|-------------------|--------|----------|
| Manufacturer      | Nova   |          |
| Type              | Ion6 L |          |
| Max. weight       |        | 130 kg   |
| Required strength | 14g    | 1785 daN |

### Reference:

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

|                                  |           |           |          |          |  |          |          |          |          |           |
|----------------------------------|-----------|-----------|----------|----------|--|----------|----------|----------|----------|-----------|
| Type of line                     | PPSL 160  | PPSL 191  | DSL 70   | TSL 140  |  | U-120    | U-90     | U-70     | PPSL-65  | 7850-240  |
| Line manufacturer                | Liros     | Edelrid   | Liros    | Edelrid  |  | Edelrid  | Edelrid  | Liros    | Liros    | Edelrid   |
| Test number of line bending test |           |           |          |          |  |          |          |          |          |           |
| Diameter                         | 1,3 mm    | 1,2 mm    | 1,0 mm   | 1,3 mm   |  | 1,0 mm   | 0,8 mm   | 0,8 mm   | 0,7mm    | 2,1 mm    |
| Material core                    | Dyneema   | Dyneema   | Dyneema  | Kevlar   |  | Kevlar   | Kevlar   | Dyneema  | Dyneema  | Dyneema   |
| Material cladding                |           |           |          |          |  |          |          |          |          |           |
| Line strength bended             | 140,7 daN | 138,9 daN | 57,2 daN | 74,2 daN |  | 94,3 daN | 73,0 daN | 41,5 daN | 45,8 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 191     | 6         | 138,9               |                 | 833,4 daN          |
| Level A 2nd line value |              |           |                     |                 | 0,0 daN            |
| Level A 3rd line value |              |           |                     |                 | 0,0 daN            |
| Level B                | PPSL 191     | 6         | 138,9               |                 | 833,4 daN          |
| Level B 2nd line value | TSL 140      | 2         | 74,2                |                 | 148,4 daN          |
| Level B 3rd line value |              | 0         | 0,0                 |                 | 0,0 daN            |
| Level C                | TSL 140      | 6         | 74,2                |                 | 445,2 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>2260,40 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 | PPSL 160     | 2        | 140,7               | 150 daN   | 281,4 daN                                        |
| 1. Gallery  | DSL 70       | 4        | 41,5                | 150 daN   | 166,0 daN                                        |
| 2. Gallery  | DSL 70       | 12       | 41,5                | 150 daN   | 498,0 daN                                        |
| 3. Gallery  | PPSL 65      | 24       | 45,8                | 150 daN   | 1099,2 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                | 833,4 daN         | 8          | 94,3                | 754,4 daN         |            |                     | 0,0 daN        | 0          | 0,0                 | 0,0 daN        |
| Level A 2nd line value | 0,0 daN           | 6          | 73,0                | 438,0 daN         |            |                     | 0,0 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>833,4 daN</b>  | <b>14</b>  |                     | <b>1192,4 daN</b> | <b>0</b>   |                     | <b>0,0 daN</b> | <b>0</b>   |                     | <b>0,0 daN</b> |
| Level B                | 833,4 daN         | 8          | 94,3                | 754,4 daN         |            |                     | 0,0 daN        | 0          | 0,0                 | 0,0 daN        |
| Level B 2nd line value | 148,4 daN         | 6          | 73,0                | 438,0 daN         |            |                     | 0,0 daN        | 0          | 0,0                 | 0,0 daN        |
| Level B 3rd line value | 0,0 daN           |            |                     | 0,0 daN           |            |                     | 0,0 daN        | 0          | 0,0                 | 0,0 daN        |
| <b>Total B</b>         | <b>981,8 daN</b>  | <b>14</b>  |                     | <b>1192,4 daN</b> | <b>0</b>   |                     | <b>0,0 daN</b> | <b>0</b>   |                     | <b>0,0 daN</b> |
| Level C                | 445,2 daN         | 8          | 94,3                | 754,4 daN         |            |                     | 0,0 daN        | 0          | 0,0                 | 0,0 daN        |
| Level C 2nd line value | 0,0 daN           | 6          | 73,0                | 438,0 daN         |            |                     | 0,0 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>445,2 daN</b>  | <b>14</b>  |                     | <b>1192,4 daN</b> | <b>0</b>   |                     | <b>0,0 daN</b> | <b>0</b>   |                     | <b>0,0 daN</b> |
| Level D                | 0,0 daN           | 0          | 0,0                 | 0,0 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>0</b>   |                     | <b>0,0 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 daN        | 0          | 0,0                 | 0,0 daN        |
| Level E 2nd line value | 0,0 daN           | 0          | 0,0                 | 0,0 daN           |            |                     | 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 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>2260,4 daN</b> | <b>42</b>  |                     | <b>3577,2 daN</b> | <b>0</b>   |                     | <b>0,0 daN</b> | <b>0</b>   |                     | <b>0,0 daN</b> |

Diese Berechnung wurde elektronisch erstellt und ist ohne Unterschrift gültig

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