Institut für Fördertechnik und Logistik **Universität Stuttgart**	**Low stretch kern-mantel rope** in accordance to EN 1891/6.98 / UIAA 107	Rope-No.: **2015** Rope designation.: **12,5mm**
Client: **BARBARIAN ROPES**	Date of order: **18.03.2014**	Date of Entrance: **27.03.14**
Rope manufacturer: **BARBARIAN ROPES / THAILAND**		Entrance No.: **3266**

Rope diameter d= **13,4** mm	Type A: ☒ Type B: ☐
Rope colour: **black**	Mass per unit Rope: M = **97,7** g/m Mantle: S_P = **44,6** % Core: C = **55,4** %
Descriptor yarn/ mantle: **--**	
Descriptor yarn/ core: **film: 1 thread of silver**	
Climatisation: ☒ Norm 20°C / 65%rel.	Construction: **Kern-Mantel** / Material: **PA**

Static strength

- without terminations

F_B = **35,0** kN
Target: Typ A = 22 kN
Typ B = 18 kN

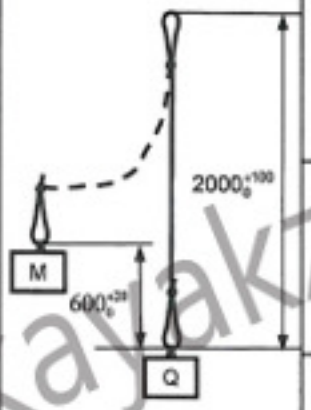
- with terminations, knots

F_B = **19,1** kN

- with stitched terminations

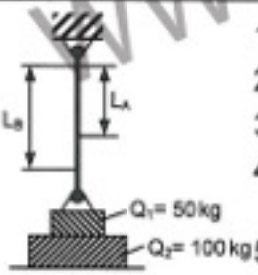
F_B = **31,0** kN
Target: Type A = 3 min/15 kN
Type B = 3 min/12 kN

Drop test:



Fall arrest peak force F_f in kN Target: ≤ 6 kN	Sample 1	Sample 2 with stitched terminations
	3,9	**5,3**
Number of drops without breakage	**≥ 20**	**≥ 20**
Breakage	not torn	not torn

Elongation



1. Pull the rope up to Q_1 = 50 kg
2. 5 min holding time
3. L_A marking the rope
4. Pull the rope up to Q_1+Q_2 = 150 kg without shock
5. 5 min holding time with Q_1+Q_2 = 150kg
6. L_B measure the distance

L_B = **1042** mm
E = **4,2** %
Target: ≤ 5 %

Shrinkage

	Sample 1
L_A	1000 mm
L_B	**990** mm
R	**1,0** %

Knotability PL = 3 m

1. Pull the knot with 10 kg for 1 minute
2. Reduce the pull down to 1 kg. Measure the inside diameter of the knot

Inside diameter of the knot in mm:

Knot 1	Knot 2	Average	K = Aver./d	Targ.
14,0	**15,0**	**14,5**	**1,1**	< 1,2

Sheath slippage

Sample 1: V = **27** mm
S_S = **1,4** %

Target: V(D≤12)Type A ≤ 20 mm + 10 (D-9) mm
V(D>12)Type A ≤ 20 mm + 5 (D-12) mm
Type B ≤ 15 mm

The rope performs the conditions of the EN 1891/6.98 and UIAA 107 ☒ yes ☐ no

Date: **04.04.14**	Tester: **S. Bakschan**	Date: **10.04.14**	Signature:

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