

# OSNALINE® Specification for tube bundles with plastic tubes



## 78P RB Rev. 1

### 1.0 Content

The specification describes the minimum requirements for tube bundles with plastic tubes.

### 2.0 Design

Tube bundles content one or more continuously numbered plastic tubes. The tubes are stranded and wrapped by plastic foil. The inner jacket is made out of elastic rubber. The tube bundle is covered with an outer jacket of extruded seamless plastics.



### 3.0 Standards

Tube materials:

- PE-LD** acc. to 78P PE-LD
- PE-HD** acc. to 78P PE-HD
- PA 12-HIPHL** acc. to 78P PA12-HIPHL
- PTFE** acc. to 78P PTFE

Outer jacket material:

Tube bundles are covered with an extruded seamless outer jacket of plastics, black or coloured  
**PVC YM3 (lead-free)** acc. to DIN VDE 0207 Part 5.

Other materials on special inquiry

- PVC YM4 (lead-free)** acc. to DIN VDE 0207 Part 5, black
- PE-LD** acc. to VDE 0207 Part 3, black or coloured, halogen free
- TPU** acc. to VDE 0282 Part 10, black, halogen free

Inner jacket halogen free

### 4.0 Delivery form

Bundle ends are capped and sealed against dust and moisture.

Outer sheath printed with dimension, material,

length marking and production code.  
Packing and delivery length see table 1.

### 5.0 Quality inspection

- Dimensions
- Pressure test
- Inside clearance

### 6.0 Characteristics

- Protection against mechanical impacts
- Protection against environments
- Wide temperature range
- Flexible, easy to install
- Coloured available

### 7.0 Application

- Control lines for instruments and control units

### 8.0 Special design

- Tube bundle with different tube dimensions
- Others on special inquiry

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Table 1: Manufacturing range

Number of tubes and dimensions [mm] <sup>1)</sup>	Jacket thickness [mm]	Overall diameter [mm] <sup>2)</sup>	Tolerance [mm] <sup>2)</sup>	Weight [Kg/100m]	Max. length [m]	Packing
2 x 6 x 1	1,4	17,5	+/- 0,5mm	30	250/500	Wodden drum
3 x 6 x 1	1,4	18	+/- 0,5mm	31	250/500	Wodden drum
4 x 6 x 1	1,6	20	+/- 0,5mm	35	250/500	Wodden drum
5 x 6 x 1	1,6	22	+/- 0,5mm	41	250/500	Wodden drum
6 x 6 x 1	1,8	24	+/- 0,5mm	47	250/500	Wodden drum
7 x 6 x 1	1,8	24	+/- 0,5mm	46	250/500	Wodden drum
10 x 6 x 1	2,0	31	+/- 0,5mm	68	250/500	Wodden drum
12 x 6 x 1	2,0	31,5	+/- 0,8mm	70	250/500	Wodden drum
14 x 6 x 1	2,2	33,5	+/- 0,8mm	79	250/500	Wodden drum
16 x 6 x 1	2,2	35,5	+/- 0,8mm	89	250/500	Wodden drum
19 x 6 x 1	2,2	37	+/- 0,8mm	96	250/500	Wodden drum
2 x 8 x 1	1,6	22	+/- 0,5mm	46	250/500	Wodden drum
3 x 8 x 1	1,6	23	+/- 0,5mm	47	250/500	Wodden drum
4 x 8 x 1	1,8	25,5	+/- 0,5mm	52	250/500	Wodden drum
5 x 8 x 1	1,8	28	+/- 0,5mm	60	250/500	Wodden drum
6 x 8 x 1	2,0	30,5	+/- 0,5mm	69	250/500	Wodden drum
7 x 8 x 1	2,0	30,5	+/- 0,5mm	66	250/500	Wodden drum
10 x 8 x 1	2,2	39,5	+/- 0,5mm	99	250/500	Wodden drum
12 x 8 x 1	2,4	41	+/- 0,8mm	104	250/500	Wodden drum
14 x 8 x 1	2,4	43	+/- 0,8mm	118	250/500	Wodden drum
16 x 8 x 1	2,6	45,5	+/- 0,8mm	135	250/500	Wodden drum
19 x 8 x 1	2,6	48	+/- 0,8mm	146	250/500	Wodden drum



<sup>1)</sup> Differing dimensions on request.

<sup>2)</sup> Values given are nominal values within the limits of normal manufacturing tolerances.

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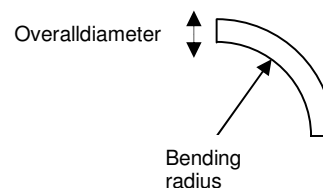
Table 1: Manufacturing range

Number of tubes and dimensions [mm] <sup>1)</sup>	Jacket thickness [mm]	Overall diameter [mm] <sup>2)</sup>	Tolerance [mm] <sup>2)</sup>	Weight [Kg/100m]	Max. length [m]	Packing
2 x 10 x 1	1,8	26,5	+/- 0,5mm	30	250/500	Wodden drum
3 x 10 x 1	1,8	28	+/- 0,5mm	65	250/500	Wodden drum
4 x 10 x 1	2,0	32	+/- 0,8mm	67	250/500	Wodden drum
5 x 10 x 1	2,2	34,5	+/- 0,8mm	72	250/500	Wodden drum
6 x 10 x 1	2,2	37,5	+/- 0,8mm	84	250/500	Wodden drum
7 x 10 x 1	2,2	37,5	+/- 0,8mm	94	250/500	Wodden drum
10 x 10 x 1	2,6	48,5	+/- 0,8mm	89	250/500	Wodden drum
12 x 10 x 1	2,6	50	+/- 1,0mm	142	250/500	Wodden drum
14 x 10 x 1	2,6	52,5	+/- 1,0mm	146	250/500	Wodden drum
16 x 10 x 1	2,6	55,5	+/- 1,0mm	158	250/500	Wodden drum
19 x 10 x 1	2,6	58,5	+/- 1,0mm	188	250/500	Wodden drum
2 x 12 x 1	2,0	31	+/- 0,8mm	88	250/500	Wodden drum
3 x 12 x 1	2,2	33	+/- 0,8mm	90	250/500	Wodden drum
4 x 12 x 1	2,2	36,5	+/- 0,8mm	96	250/500	Wodden drum
5 x 12 x 1	2,4	40	+/- 0,8mm	110	250/500	Wodden drum
6 x 12 x 1	2,4	43,5	+/- 0,8mm	124	250/500	Wodden drum
7 x 12 x 1	2,4	43,5	+/- 0,8mm	117	250/500	Wodden drum
10 x 12 x 1	2,6	56,5	+/- 0,8mm	176	250/500	Wodden drum



Table 2: Bending

Type	Permissible bending radius
Tube bundle	7 x Overall diameter
Tube PE-HD, PA	6 x Overall diameter
Tube PE-LD	5 x Overall diameter
Tube PTFE	7 x Overall diameter



<sup>1)</sup> Differing dimensions on request.

<sup>2)</sup> Values given are nominal values within the limits of normal manufacturing tolerances.