

Fibre optic cables

CTC ADSS



www.ace-fibreoptic.com



CTC ADSS - Outdoor, Aerial metallfree cable.

All Dielectric Self Supporting Cable in a central tube configuration with low bend radius, no waterpeak G.657.A1 fibres and dry-waterblocking aramid yarns underneath the polyethylene outer sheath. This FttX-cable is intended for use as an aerial customer drop cable. This cable is designed for spans between approx. 30 and 150 mtrs, depending on installing and surroundings conditions, with the conditions from the NESC tables as a basis. For further information, please consult document Sag & Tension Calculations under characteristic 'Specification'.

| Characteristics | Properties | Unit |
|--|----------------------------|-------|
| Product group | Outdoor cables | |
| Series | Glasvezelkabel Single Mode | |
| Type | CTC ADSS | |
| Standardization | IEC 60794-3-20 | |
| Test procedures | IEC 60794-1-2 | |
| Application | Outside | |
| Strain relief | Yes | |
| Optical Element | Loose tube, gel filled | |
| Fibre type | Single mode | |
| Optical fibre standard | ITU-T G.657.A1 | |
| Material outer sheath | PE | |
| Colour outer sheath | Black | |
| Halogen free (acc. EN 50267-2-2) | Yes | |
| UV resistant | Yes | |
| Cable metal free | Yes | |
| Longitudinal water blocking | Yes | |
| Installation temperature | -10 / 50 | °C |
| Operation temperature range | -40 / 70 | °C |
| Transportation and storage temperature | -40 / 70 | °C |
| Attenuation @ 1310 nm | 0.4 | dB/km |
| Attenuation @ 1550 nm | 0.3 | dB/km |
| Attenuation @ 1625 nm | 0.4 | dB/km |
| Construction and Colour codes | zie bijlagen | |
| Specification | zie bijlagen | |



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CTC ADSS



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| Partnumber | Description | Outer diameter approx. (mm) | Net weight (Kg/km) | Bending radius after installation | Bending radius during installation | Tensile load short term (Tm) (N) | Tensile load Long Term (TI) (N) |
|------------|-----------------|-----------------------------|--------------------|-----------------------------------|------------------------------------|----------------------------------|---------------------------------|
| 77640 | 2x SM G.657.A1 | 6,6 | 34 | 100 | 130 | 1350 | 600 |
| 77641 | 4x SM G.657.A1 | 6,6 | 34 | 100 | 130 | 1350 | 600 |
| 77642 | 6x SM G.657.A1 | 6,6 | 34 | 100 | 130 | 1350 | 600 |
| 77643 | 8x SM G.657.A1 | 6,6 | 33 | 100 | 130 | 1350 | 600 |
| 77644 | 12x SM G.657.A1 | 6,6 | 40 | 100 | 135 | 1350 | 600 |

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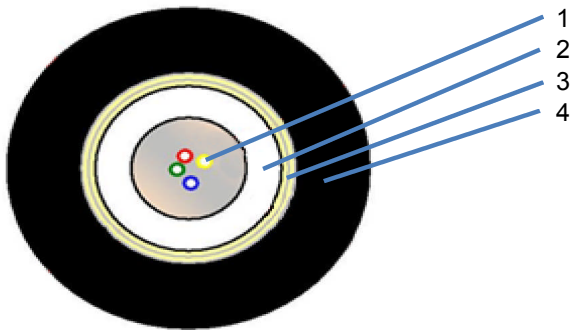
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Product information

Cable construction and colour code

CTC ADSS

FO cable with central tube
Outdoor application; aerial fibre-optic drop cable



Description:

- 1 Optical fibres
- 2 Central tube, gel-filled
- 3 Reinforcement of aramid yarns
- 4 Outer sheath (PE)

Standard Colours:

| Fibre Fibre nr. | Colour |
|--------------------|-----------|
| 1 | Red |
| 2 | Green |
| 3 | Blue |
| 4 | Yellow |
| 5 | White |
| 6 | Grey |
| 7 | Brown |
| 8 | Violet |
| 9 | Turquoise |
| 10 | Black |
| 11 | Orange |
| 12 | Pink |



Product information

CTC ADSS

Aerial Fibre-Optic Drop Cable; Sag & Tension Calculations

| | NESC-Light | | NESC-Medium | | NESC-Heavy | |
|----------------------|------------|------------|-------------|------------|------------|--------|
| | max 8 | 12 | max 8 | 12 | max 8 | 12 |
| Fibre count | max 8 | 12 | max 8 | 12 | max 8 | 12 |
| Installation Tension | 448 N | 477 N | 232 N | 258 N | 130 N | 148 N |
| Installed Sag | 1% | 1% | 1% | 1% | 1% | 1% |
| Max Span | 110 m | 100 m | 57 m | 54 m | 32 m | 31 m |
| Max Tension TM | 1350 N | 1350 N | 1350 N | 1350 N | 1350 N | 1350 N |
| Max Sag | 3,7% | 3,5% | 4,0% | 3,9% | 4,2% | 4,1% |
| Cable & Fibre Strain | 0,50% | 0,48% | 0,49% | 0,47% | 0,48% | 0,46% |
| Fibre count | max 8 | 12 | max 8 | 12 | max 8 | 12 |
| Installation Tension | 267 N | 286 N | 131 N | 148 N | 73 N | 82 N |
| Installed Sag | 2% | 2% | 2% | 2% | 2% | 2% |
| Max Span | 131 m | 120 m | 64 m | 62 m | 36 m | 34 m |
| Max Tension TM | 1350 N | 1350 N | 1350 N | 1350 N | 1350 N | 1350 N |
| Max Sag | 4,4% | 4,3% | 4,6% | 4,5% | 4,6% | 4,5% |
| Cable & Fibre Strain | 0,50% | 0,48% | 0,49% | 0,48% | 0,48% | 0,46% |
| Fibre count | max 8 | 12 | max 8 | 12 | max 8 | 12 |
| Installation Tension | 203 N | 220 N | 98 N | 111 N | 54 N | 62 N |
| Installed Sag | 3% | 3% | 3% | 3% | 3% | 3% |
| Max Span | 149 m | 137 m | 72 m | 69 m | 40 m | 38 m |
| Max Tension TM | 1350 N | 1350 N | 1350 N | 1350 N | 1350 N | 1350 N |
| Max Sag | 5,0% | 4,9% | 5,1% | 5,1% | 5,2% | 5,1% |
| Cable & Fibre Strain | 0,50% | 0,48% | 0,49% | 0,47% | 0,48% | 0,46% |
| | Units | NESC-Light | NESC-Medium | NESC-Heavy | | |
| Wind velocity | m/s | 26,5 | 17,7 | 17,7 | | |
| | km/h | 95 | 64 | 64 | | |
| | mph | 59 | 40 | 40 | | |
| Ice thickness | mm | 0 | 6,5 | 12,5 | | |
| | inch | 0 | 0,25 | 0,50 | | |
| Additional load | kg/m | 0,073 | 0,296 | 0,449 | | |
| | lbs/ft | 0,05 | 0,20 | 0,30 | | |
| Temperature | °C | -1 | -10 | -20 | | |
| | °F | 30 | 15 | 0 | | |

Fibre optic cables

LTC ADSS-80



www.ace-fibreoptic.com



LTC ADSS - Outdoor, Aerial metallfree cable.

All Dielectric Self-Supporting Cable, metallfree, with dry waterblocking and aramid yarns under the outdoorsheath. This cable is to be used under all dielectric circumstances, for example on distribution and high voltage power lines, railway, tram, trolley bus lines and between buildings. Because of its strong tensile members it is suitable for aerial applications without using additional strenght members. This cable is designed for spans between approx. 80 and 160 mtrs, depending on installing and surroundings conditions, with the conditions from the NESC tables as a basis. For further information, please consult document Sag & Tension Calculations under characteristic 'Specification'.

| Characteristics | Properties | Unit |
|--|----------------------------|-------|
| Product group | Outdoor cables | |
| Series | Glasvezelkabel Single Mode | |
| Type | LTC ADSS-80 | |
| Standardization | IEC 60794-3-20 | |
| Test procedures | IEC 60794-1-2 | |
| Application | Outside | |
| Strain relief | Yes | |
| Optical Element | Loose tube, gel filled | |
| Fibre type | Single mode | |
| Optical fibre standard | ITU-T G.657.A1 | |
| Strip method | 1 Rip cord | |
| Material outer sheath | HDPE | |
| Colour outer sheath | Black | |
| Halogen free (acc. EN 50267-2-2) | Yes | |
| UV resistant | Yes | |
| Cable metal free | Yes | |
| Longitudinal water blocking | Yes | |
| Longitudinal watertight construction | Super Absorbing Polymer | |
| Installation temperature | -15 / 50 | °C |
| Operation temperature range | -40 / 70 | °C |
| Transportation and storage temperature | -40 / 70 | °C |
| Attenuation @ 1310 nm | 0.35 | dB/km |
| Attenuation @ 1550 nm | 0.21 | dB/km |
| Attenuation @ 1625 nm | 0.23 | dB/km |
| Construction and Colour codes | zie bijlagen | |
| Specification | zie bijlagen | |

Fibre optic cables

LTC ADSS-80



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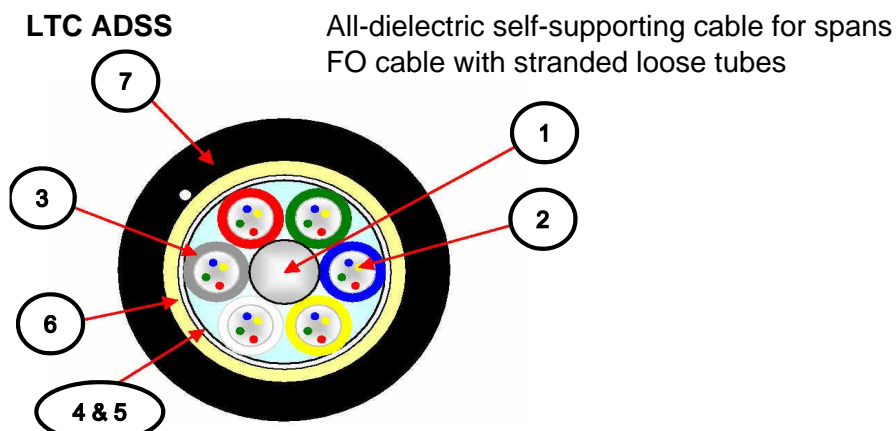
| Partnumber | Description | Outer diameter approx. | Net weight (Kg/km) | Bending radius after installation | Bending radius during | Tensile load short term (Tm) (N) | Tensile load Long Term (TI) (N) |
|------------|--------------------------|------------------------|--------------------|-----------------------------------|-----------------------|----------------------------------|---------------------------------|
| 77650 | 12x SM G.657.A1 (6x2) | 10,6 | 85 | 160 | 210 | 3500 | 3500 |
| 77651 | 24x SM G.657.A1 (6x4) | 10,7 | 87 | 160 | 215 | 4150 | 4050 |
| 77652 | 24x SM G.657.A1 (2x12) | 11,6 | 99 | 175 | 230 | 4850 | 3950 |
| 77664 | 36x SM G.657.A1 (3x12) | 11,6 | 101 | 175 | 230 | 4800 | 4300 |
| 74111 | 48x SM G.657.A1 (6x8) | 11,5 | 101 | 175 | 230 | 4050 | 4050 |
| 77653 | 48x SM G.657.A1 (4x12) | 11,6 | 101 | 175 | 230 | 4950 | 4050 |
| 77654 | 72x SM G.657.A1 (6x12) | 11,6 | 103 | 175 | 230 | 5050 | 4100 |
| 77655 | 96x SM G.657.A1 (8x12) | 13,3 | 132 | 200 | 265 | 5300 | 4500 |
| 77656 | 144x SM G.657.A1 (12x12) | 16,4 | 203 | 250 | 330 | 6200 | 5550 |
| 77657 | 144x SM G.657.A1 (6x24) | 13,6 | 143 | 205 | 275 | 6500 | 5400 |
| 77659 | 192x SM G.657.A1 (8x24) | 15,5 | 181 | 250 | 330 | 5950 | 5200 |
| 77661 | 216x SM G.657.A1 (9x24) | 16,8 | 211 | 250 | 330 | 6900 | 6350 |

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Product information

Cable construction and colour code



Description:

- 1 Centre element, FRP
- 2 Optical fibres
- 3 Sub units (2, 4, 6, 8, 12 or 24 fibres)
- 4 & 5 Binders & Waterblocking tape
- 6 Waterblocking Aramide
- 7 Outer sheath & ripcord

Standard Colours:

| Fibres | | Tubes | |
|---------|-----------|---------|--------------|
| Group 1 | Group 2 | Layer 1 | Layer 2 |
| 1 | Red | 13 | Red +t |
| 2 | Green | 14 | Green +t |
| 3 | Blue | 15 | Blue +t |
| 4 | Yellow | 16 | Yellow +t |
| 5 | White | 17 | White +t |
| 6 | Grey | 18 | Grey +t |
| 7 | Brown | 19 | Brown +t |
| 8 | Violet | 20 | Violet +t |
| 9 | Turquoise | 21 | Turquoise +t |
| 10 | Black | 22 | Natural |
| 11 | Orange | 23 | Orange +t |
| 12 | Pink | 24 | Pink +t |

note +t: indicates a black tracer

Product information

LTC ADSS

LTC ADSS 80 Catenary Calculations

Based on the following installation conditions

Installation Temperature 15 °C

Nominal Sag 1%

the cables are suitable for the NESC-situations with spans, tensions and sags as listed in the table below

| Fibre count | Tubes & Fibres n x m | NESC Light | | | NESC Medium | | | NESC Heavy | | | |
|-------------|----------------------|---------------|------------------|---------------|--------------|------------------|-------------|---------------|------------------|-------------|----------|
| | | Temperature | -1 °C | Temperature | -10 °C | Temperature | -20 °C | Wind velocity | 26,5 m/s | 17,7 m/s | 17,7 m/s |
| | | Wind velocity | 26,5 m/s | Ice thickness | 0 mm | Ice thickness | 6,5 mm | Ice thickness | 12,5 mm | | |
| | | Max Span (m) | Max Tension (kN) | Max Sag (%) | Max Span (m) | Max Tension (kN) | Max Sag (%) | Max Span (m) | Max Tension (kN) | Max Sag (%) | |
| 12 | 6 x 2 | 190 | 3,5 | 3,7 | 130 | 3,5 | 4,2 | 80 | 3,5 | 4,6 | |
| 24 | 6 x 4 | 215 | 4,0 | 3,6 | 150 | 4,0 | 4,2 | 90 | 3,9 | 4,6 | |
| 32 | 8 x 4 | 185 | 4,1 | 3,4 | 135 | 4,1 | 4,0 | 85 | 4,0 | 4,4 | |
| 36 | 6 x 6 | 200 | 4,0 | 3,5 | 135 | 3,9 | 3,9 | 85 | 4,0 | 4,3 | |
| 24 | 3 x 8 | 190 | 3,9 | 3,6 | 135 | 3,8 | 4,1 | 85 | 3,8 | 4,6 | |
| 48 | 6 x 8 | 195 | 4,1 | 3,5 | 140 | 4,0 | 4,1 | 90 | 4,1 | 4,5 | |
| 24 | 2 x 12 | 180 | 3,9 | 3,4 | 130 | 4,0 | 3,9 | 80 | 3,9 | 4,2 | |
| 48 | 4 x 12 | 185 | 4,1 | 3,3 | 130 | 4,0 | 3,8 | 80 | 3,9 | 4,2 | |
| 72 | 6 x 12 | 185 | 4,1 | 3,3 | 130 | 4,1 | 3,8 | 80 | 4,0 | 4,1 | |
| 96 | 8 x 12 | 170 | 4,5 | 3,1 | 130 | 4,5 | 3,6 | 85 | 4,5 | 4,1 | |
| 144 | 12 x 12 | 155 | 5,6 | 2,8 | 125 | 5,5 | 3,2 | 85 | 5,5 | 3,7 | |
| 144 | 6 x 24 | 200 | 5,4 | 3,1 | 150 | 5,4 | 3,6 | 100 | 5,4 | 4,1 | |
| 192 | 6 x 24 | 155 | 5,1 | 2,9 | 125 | 5,2 | 3,3 | 85 | 5,2 | 3,8 | |
| 216 | 9 x 24 | 170 | 6,3 | 2,8 | 140 | 6,3 | 3,2 | 95 | 6,2 | 3,7 | |

Table: Operational conditions, max achievable span, tension and sag.

Fibre optic cables

LTC ADSS-150



www.ace-fibreoptic.com



LTC ADSS-150 - Outdoor, Aerial metallfree cable.

All Dielectric Self-Supporting Cable, metallfree, with dry waterblocking and aramid yarns under the outdoorsheath. This cable is to be used under all dielectric circumstances, for example on distribution and high voltage power lines, railway, tram, trolley bus lines and between buildings. Because of its strong tensile members it is suitable for aerial applications without using additional strenght members. This cable is designed for spans between approx. 150 and 300 mtrs, depending on installing and surroundings conditions, with the conditions from the NESC tables as a basis. For further information, please consult document Sag & Tension Calculations under characteristic 'Specification'.

| Characteristics | Properties | Unit |
|--|----------------------------|-------|
| Product group | Outdoor cables | |
| Series | Glasvezelkabel Single Mode | |
| Type | LTC ADSS-150 | |
| Standardization | IEC 60794-3-20 | |
| Test procedures | IEC 60794-1-2 | |
| Application | Outside | |
| Strain relief | Yes | |
| Optical Element | Loose tube, gel filled | |
| Fibre type | Single mode | |
| Optical fibre standard | ITU-T G.657.A1 | |
| Strip method | 1 Rip cord | |
| Material outer sheath | HDPE | |
| Colour outer sheath | Black | |
| Halogen free (acc. EN 50267-2-2) | Yes | |
| UV resistant | Yes | |
| Cable metal free | Yes | |
| Longitudinal water blocking | Yes | |
| Longitudinal watertight construction | Super Absorbing Polymer | |
| Installation temperature | -15 / 50 | °C |
| Operation temperature range | -40 / 70 | °C |
| Transportation and storage temperature | -40 / 70 | °C |
| Attenuation @ 1310 nm | 0.38 | dB/km |
| Attenuation @ 1550 nm | 0.24 | dB/km |
| Attenuation @ 1625 nm | 0.26 | dB/km |
| Construction and Colour codes | zie bijlagen | |
| Specification | zie bijlagen | |

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Fibre optic cables

LTC ADSS-150



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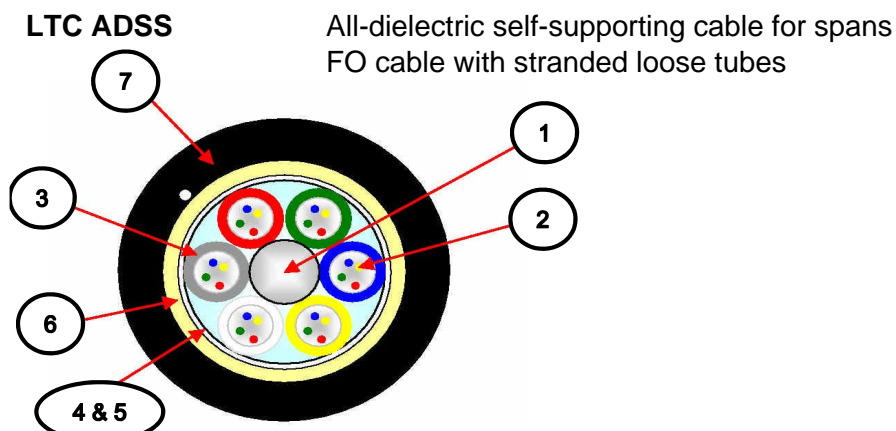
| Partnumber | Description | Outer diameter approx. | Net weight (Kg/km) | Bending radius after installation | Bending radius during | Tensile load short term (Tm) (N) | Tensile load Long Term (TI) (N) |
|------------|-------------------------|------------------------|--------------------|-----------------------------------|-----------------------|----------------------------------|---------------------------------|
| 77670 | 12x SM G.657.A1 (6x2) | 11,1 | 95 | 165 | 220 | 7200 | 7200 |
| 77671 | 24x SM G.657.A1 (6x4) | 11,2 | 97 | 165 | 220 | 7800 | 7600 |
| 77672 | 24x SM G.657.A1 (2x12) | 12,2 | 111 | 185 | 245 | 9700 | 8600 |
| 77673 | 48x SM G.657.A1 (6x8) | 12,0 | 111 | 180 | 240 | 7800 | 7800 |
| 77674 | 48x SM G.657.A1 (4x12) | 12,1 | 112 | 180 | 240 | 9300 | 8200 |
| 77675 | 72x SM G.657.A1 (6x12) | 12,1 | 114 | 180 | 240 | 9400 | 8300 |
| 77676 | 96x SM G.657.A1 (8x12) | 13,7 | 142 | 205 | 275 | 9600 | 8900 |
| 77677 | 144x SM G.657.A1 (6x24) | 13,9 | 146 | 210 | 280 | 8600 | 8400 |

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Product information

Cable construction and colour code



Description:

- 1 Centre element, FRP
- 2 Optical fibres
- 3 Sub units (2, 4, 6, 8, 12 or 24 fibres)
- 4 & 5 Binders & Waterblocking tape
- 6 Waterblocking Aramide
- 7 Outer sheath & ripcord

Standard Colours:

| Fibres | | Tubes | |
|---------|-----------|---------|--------------|
| Group 1 | Group 2 | Layer 1 | Layer 2 |
| 1 | Red | 13 | Red +t |
| 2 | Green | 14 | Green +t |
| 3 | Blue | 15 | Blue +t |
| 4 | Yellow | 16 | Yellow +t |
| 5 | White | 17 | White +t |
| 6 | Grey | 18 | Grey +t |
| 7 | Brown | 19 | Brown +t |
| 8 | Violet | 20 | Violet +t |
| 9 | Turquoise | 21 | Turquoise +t |
| 10 | Black | 22 | Natural |
| 11 | Orange | 23 | Orange +t |
| 12 | Pink | 24 | Pink +t |

note +t: indicates a black tracer

Fibre optic cables

LTC ADSS-250



www.ace-fibreoptic.com



LTC ADSS-250 - Outdoor, Aerial metallfree cable.

All Dielectric Self-Supporting Cable, metallfree, with dry waterblocking and aramid yarns under the outersheath. This cable is to be used under all dielectric circumstances, for example on distribution and high voltage power lines, railway, tram, trolley bus lines and between buildings. Because of its strong tensile members it is suitable for aerial applications without using additional strenght members. This cable is designed for spans between approx. 250 and 450 mtrs, depending on installing and surroundings conditions, with the conditions from the NESC tables as a basis. For further information, please consult document Sag & Tension Calculations under characteristic 'Specification'.

| Characteristics | Properties | Unit |
|--|----------------------------|-------|
| Product group | Outdoor cables | |
| Series | Glasvezelkabel Single Mode | |
| Type | LTC ADSS-250 | |
| Standardization | IEC 60794-3-20 | |
| Test procedures | IEC 60794-1-2 | |
| Application | Outside | |
| Strain relief | Yes | |
| Optical Element | Loose tube, gel filled | |
| Fibre type | Single mode | |
| Optical fibre standard | ITU-T G.657.A1 | |
| Material outer sheath | HDPE | |
| Colour outer sheath | Black | |
| Halogen free (acc. EN 50267-2-2) | Yes | |
| UV resistant | Yes | |
| Cable metal free | Yes | |
| Longitudinal water blocking | Yes | |
| Longitudinal watertight construction | Super Absorbing Polymer | |
| Installation temperature | -15 / 50 | °C |
| Operation temperature range | -40 / 70 | °C |
| Transportation and storage temperature | -40 / 70 | °C |
| Attenuation @ 1310 nm | 0.38 | dB/km |
| Attenuation @ 1550 nm | 0.24 | dB/km |
| Attenuation @ 1625 nm | 0.26 | dB/km |
| Construction and Colour codes | zie bijlagen | |
| Specification | zie bijlagen | |

| Partnumber | Description | Outer diameter approx. | Net weight (Kg/km) | Bending radius after installation | Bending radius during | Tensile load short term (Tm) (N) | Tensile load Long Term (TI) (N) |
|------------|-------------|------------------------|--------------------|-----------------------------------|-----------------------|----------------------------------|---------------------------------|
|------------|-------------|------------------------|--------------------|-----------------------------------|-----------------------|----------------------------------|---------------------------------|

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Fibre optic cables

LTC ADSS-250



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| Partnumber | Description | Outer diameter approx. | Net weight (Kg/km) | Bending radius after installation | Bending radius during | Tensile load short term (Tm) (N) | Tensile load Long Term (TI) (N) |
|------------|-------------------------|------------------------|--------------------|-----------------------------------|-----------------------|----------------------------------|---------------------------------|
| 77680 | 12x SM G.657.A1 (6x2) | 13,9 | 147 | 205 | 275 | 14500 | 14500 |
| 77681 | 24x SM G.657.A1 (6x4) | 13,9 | 149 | 205 | 275 | 15000 | 14700 |
| 77682 | 24x SM G.657.A1 (2x12) | 15,0 | 171 | 225 | 300 | 19000 | 16900 |
| 77683 | 48x SM G.657.A1 (6x8) | 14,7 | 165 | 220 | 290 | 15100 | 15100 |
| 77684 | 48x SM G.657.A1 (4x12) | 15,0 | 172 | 225 | 300 | 18600 | 16600 |
| 77685 | 72x SM G.657.A1 (6x12) | 15,0 | 174 | 225 | 300 | 18700 | 16600 |
| 77686 | 96x SM G.657.A1 (8x12) | 16,5 | 207 | 245 | 325 | 18900 | 17400 |
| 77687 | 144x SM G.657.A1 (6x24) | 16,7 | 210 | 250 | 335 | 17400 | 17100 |

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