

Type NC

Standard weight - General-purpose conduit



Flexible standard weight, nylon (PA 6), general-purpose conduit. Suitable for general-purpose automotive harness applications.

Certifications / Standards:

(Refer to tables for certifications details)



Features & benefits:

- Standard weight - General purpose conduit
- High flexibility & fatigue life
- Very high abrasion, impact and shock resistance
- Able to withstand extremes of temperatures and resistant to automotive oils and solvents
- Self-extinguishing, low smoke toxicity and halogen Free
- Very high UV resistance
- Available in black, orange (RAL 2003) and red (RAL 3031)

Applications:

- Suited to high risk impact applications
- Extensively used in harnesses on HGV and off road vehicle applications where a superior protection against impact and mechanical shock is preferred
- The conduit is used for both chassis and engine applications and can be used in a wide range of temperatures

Temperature range:

- Static applications: -40°C to +120°C (-40°F to +248°F)
- Moving applications: -15°C to +120°C (+5°F to +248°F)
- Short term: +150°C (+302°F)

UV Resistance:

- Very high (Black)

Material / Materials / Finishes:

- Polyamide (Nylon) PA 6 - heat and UV stabilised

Ingress protection:

- For use with all hinged and sealed fittings in the Harnessflex range
- IP40 - Hinged fittings, NC Slit (IP40 only)
- IP67 - Sealed fittings
- IP68 (10 bar 30 mins) - Sealed fittings

Conforms to:

- CE marked to Low Voltage Directive 2014/35/EU
- ADR / GGVS Approved
- RoHS Compliant to 2011/65/EU
- Conforms with end of life vehicle directive (ELV) EU200/53/EC
- FMVSS302

Fire performance:

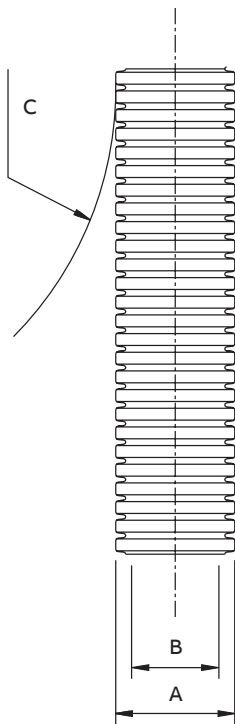
| Test standard | Performance rating |
|---------------|--------------------|
| IEC 61386-1 | Pass |
| UL94 | HB |
| FMVSS302 | 0 mm/min |

Degree of mechanical protection:

- High flexibility & fatigue life

Chemical resistance:

- High chemical resistance levels



Type NC Conduit – Part numbers and dimensions

| Part No. | Conduit size | | Dimensions (mm) | | |
|----------|--------------|------|------------------|-----------------|----------------|
| | (NC) | (NW) | Outside Dia. (A) | Inside Dia. (B) | Bend radii (C) |
| NC06 | 6 | 4.5 | 7.15 | 4.50 | 15.0 |
| NC08 | 8 | 7.5 | 10.05 | 6.20 | 15.0 |
| NC10 | 10 | 8.5 | 11.60 | 8.25 | 15.0 |
| NC12 | 12 | 10 | 13.10 | 9.65 | 20.0 |
| NC16 | 16 | 13 | 16.05 | 11.70 | 30.0 |
| NC18 | 18 | 14 | 18.40 | 13.85 | |
| NC20 | 20 | 17 | 21.20 | 16.45 | 35.0 |
| NC25 | 25 | 22 | 25.80 | 21.10 | 40.0 |
| NC28 | 28 | 23 | 28.35 | 22.50 | 45.0 |
| NC30 | 30 | 26 | 31.60 | 25.80 | 50.0 |
| NC32 | 32 | 29 | 34.50 | 28.60 | 55.0 |
| NC40 | 40 | 36 | 42.40 | 34.80 | 65.0 |
| NC50 | 50 | 48 | 54.30 | 46.50 | |

Part number example: To order quote part number & reel length, e.g. NC06/100m. For slit conduit options add -S to part number, e.g. NC06-S/100m. Colours available: Black ● RAL 9005/ Orange ● RAL 2003 / Red ● RAL 3031 / *Other colour options available, subject strictly to MOQ. For colours other than standard Black also add colour, i.e. /OR for Orange conduit, e.g. NC06/OR/100m.

Mechanical properties

| Test type | Standard | Requirement | Status |
|-----------------------------|-------------|--------------------------------------|--------|
| Crush strength | IEC61386-1 | <25% crush >90% recovery | >320N |
| Tensile strength | IEC61386-1 | Fitting pull off (Hinged Fitting) | >100N |
| Impact strength @ 23°C | IEC61386-1 | No cracks <20% deformation min value | >20J |
| Impact strength @ -15°C | IEC61386-1 | No cracks <20% deformation min value | >6J |
| Dynamic bend radius @ -15°C | IEC61386-23 | 5,000 cycles minimum | 4xOD |
| Cold bend @ -40°C | NFR13-903 | 2xOD | Pass |

Thermal properties

| Test type | Standard | Requirement | Value |
|----------------------------|--------------|--------------------------------------------------------------------------------|-------|
| Minimum temperature | – | Permanent use static | -40°C |
| Minimum temperature | IEC 61386-23 | Dynamic Use (5000 cycles @ minimum bend radius @ 40 reverse bends / minute) | -15°C |
| Max temperature | – | Permanent use | 120°C |
| Max short term temperature | – | Permanent use | 150°C |
| Max short term temperature | – | Permanent use | 175°C |

Flammability

| Test type | Standard | Requirement | Result | Value |
|--------------|-------------------|-------------------------------------|--------|-----------|
| Oxygen index | ISO 4589-2 | % Oxygen to support combustion | 23 | % |
| Glow wire | UL94 | Vertical (V0,V2) or Horizontal (HB) | HB | – |
| Flammability | BS EN IEC 61386-1 | 1Kw Burner @ 45° vertical burn | Pass | Pass/Fail |
| Flammability | FMVSS3042 | ≤100mm/min | 0 | mm/min |

Toxicity

| Test type | Standard | Requirement | Result | Value |
|------------------|----------|-------------|--------|-----------|
| Halogen free | – | <0.5% | Pass | Pass/Fail |
| Phosphorous free | – | <0.5% | Pass | Pass/Fail |
| Sulphur free | – | <0.5% | Pass | Pass/Fail |

Pre-test conditions

| Duration | Standard | Temperature | Relative humidity |
|-----------|-------------------|-------------|-------------------|
| 168 (hrs) | BS EN IEC 61386-1 | 23°C | 50% |

ABB UK Ltd
CMG House, Station Road,
Coleshill, Birmingham
B46 1 HT
Tel: +44 (0) 1675 468 200

For Sales Support contact:
gb-cmg.salesupport@abb.com
For Technical Support contact:
cmg.conduitsystems@abb.com
For Samples Support contact:
gb-sample-requests@abb.com

www.harnessflex.com

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB Cable Management Products Ltd. does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilisation of its contents – in whole or in parts – is forbidden without prior written consent of ABB Cable Management Products Ltd. Copyright© 2023 ABB. All rights reserved