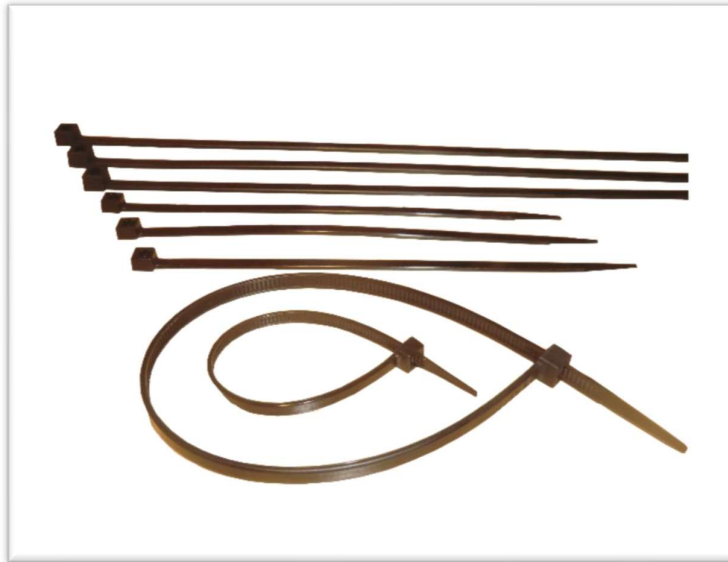




Nylon Cable Ties

Scotchflex



1. Product description

3M Scotchflex Nylon Cable ties are specially designed for easy and reliable wiring of equipment and installations. The range covers the requirements of the end users in terms of; opening load, insertion force, environmental resistance and temperature resistance. Nylon PA 6.6 has excellent mechanical resistance and it is resistant to fuels, lubricants and most chemicals. The water absorption of the pure Nylon from the air varies from 1 to 2%. The cable ties are available in a variety of sizes, in neutral and black color, which is weather resistant for outdoor use.

2. Applications

The cable ties are slotted and held in place by the resistance of the elastic tooth against the rack. The tail of the strap is pulled through the head to form a noose that can only be tightened. 3M Cable Ties are used to secure wire bundles and harness components quickly and can be used with most standard tensioning/cutoff tools for fast production line fastening. The working load is calculated using a safety coefficient of no less than 2. A preload of no higher than 10% of the working load should be applied.

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3. Typical properties

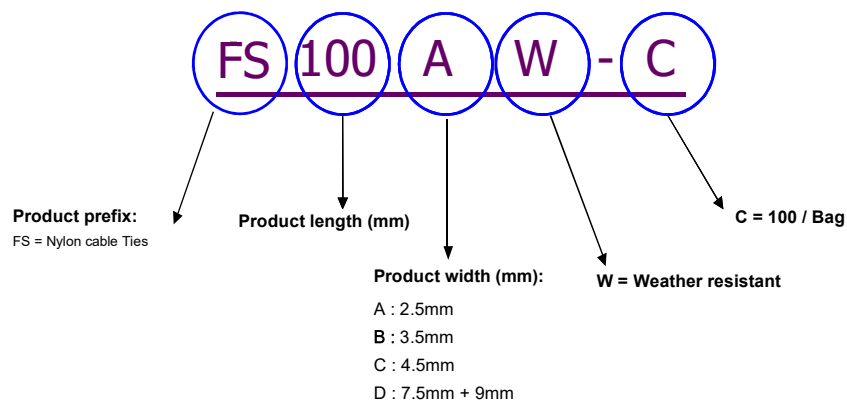
3.1 Technical information

Material	Nylon PA6.6
Flame retardancy of material	UL94 V2 self-extinguishing
Operating temperature	-40°C up to (60°C ^(*)) and 85°C ^(**)
Min. Installation temperature	-10°C
Agency approval	UL E318291
Chemical resistance	Resistant to solvents and reagents, oil, petrol, and hydrocarbons, when used at low temperatures, in low concentrations and for short periods of time. NOT RESISTANT to mineral acids, oxidizing agents.

(*) cable ties natural color, size 4,5mm

(**) acc UL318291

3.2 Product selection



Cable ties in natural color

Product Description	3M ID	Size in mm / color	Bundling Diameter in mm ^(*)	Min. Loop Tensile Strength in N ^(*)	Operating Temperature ^(*)	Min. Installation Temperature ^(*)	Pieces per Bag
CABLE-TIE FS 100 A-C	KE-2340-0000-5	100x2,5 / natural	2 – 24	80	-40° - 85°C	-10°C	100
CABLE-TIE FS 135 A-C	KE-2340-0002-1	135x2,5 / natural	2 - 35	80	-40° - 85°C	-10°C	100
CABLE-TIE FS 160 A-C	KE-2340-0004-7	160x2,5 / natural	2 - 42	80	-40° - 85°C	-10°C	100
CABLE-TIE FS 200 A-C	KE-2340-0006-2	200x2,5 / natural	2 - 55	80	-40° - 85°C	-10°C	100
CABLE-TIE FS 140 B-C	KE-2340-0008-8	140x3,5 / natural	2,5 - 36	150	-40° - 85°C	-10°C	100
CABLE-TIE FS 200 B-C	KE-2340-0010-4	200x3,5 / natural	2,5 - 55	150	-40° - 85°C	-10°C	100
CABLE-TIE FS 280 B-C	KE-2340-0012-0	280x3,5 / natural	2,5 - 80	150	-40° - 85°C	-10°C	100
CABLE-TIE FS 160 C-C	KE-2340-0014-6	160x4,5 / natural	2,5 - 38	220	-40° - 60°C	-10°C	100
CABLE-TIE FS 200 C-C	KE-2340-0016-1	200x4,5 / natural	3 - 51	220	-40° - 60°C	-10°C	100
CABLE-TIE FS 280 C-C	KE-2340-0018-7	280x4,5 / natural	5 - 76	220	-40° - 60°C	-10°C	100
CABLE-TIE FS 360 C-C	KE-2340-0020-3	360x4,5 / natural	5 - 101	220	-40° - 60°C	-10°C	100
CABLE-TIE FS 380 C-C	KE-2340-0022-9	380x4,5 / natural	5 - 110	220	-40° - 60°C	-10°C	100
CABLE-TIE FS 200 D-C	KE-2340-0024-5	200x7,5 / natural	5 - 48	460	-40° - 85°C	-10°C	100
CABLE-TIE FS 280 D-C	KE-2340-0026-0	280x7,5 / natural	5 - 76	460	-40° - 85°C	-10°C	100
CABLE-TIE FS 360 D-C	KE-2340-0028-6	360x7,5 / natural	5 - 101	460	-40° - 85°C	-10°C	100
CABLE-TIE FS 500 D-C	KE-2340-0030-2	500x7,5 / natural	20 - 145	460	-40° - 85°C	-10°C	100

(*) acc UL318291

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Cable ties in black color

Product Description	3M ID	Size in mm / color	Bundling Diameter in mm ⁽¹⁾	Min. Loop Tensile Strength in N ⁽¹⁾	Operating Temperature ⁽¹⁾	Min. Installation Temperature ⁽¹⁾	Pieces per Bag
CABLE-TIE FS 100 AW-C WR ⁽²⁾	KE-2340-0001-3	100x2,5 / black	2 - 24	80	-40° - 85°C	-10°C	100
CABLE-TIE FS 135 AW-C WR ⁽²⁾	KE-2340-0003-9	135x2,5 / black	2 - 35	80	-40° - 85°C	-10°C	100
CABLE-TIE FS 160 AW-C WR ⁽²⁾	KE-2340-0005-4	160x2,5 / black	2 - 42	80	-40° - 85°C	-10°C	100
CABLE-TIE FS 200 AW-C WR ⁽²⁾	KE-2340-0007-0	200x2,5 / black	2 - 55	80	-40° - 85°C	-10°C	100
CABLE-TIE FS 140 BW-C WR ⁽²⁾	KE-2340-0009-6	140x3,5 / black	2,5 - 36	150	-40° - 85°C	-10°C	100
CABLE-TIE FS 200 BW-C WR ⁽²⁾	KE-2340-0011-2	200x3,5 / black	2,5 - 55	150	-40° - 85°C	-10°C	100
CABLE-TIE FS 280 BW-C WR ⁽²⁾	KE-2340-0013-8	280x3,5 / black	2,5 - 80	150	-40° - 85°C	-10°C	100
CABLE-TIE FS 160 CW-C WR ⁽²⁾	KE-2340-0015-3	160x4,5 / black	2,5 - 38	220	-40° - 85°C	-10°C	100
CABLE-TIE FS 200 CW-C WR ⁽²⁾	KE-2340-0017-9	200x4,5 / black	3 - 51	220	-40° - 85°C	-10°C	100
CABLE-TIE FS 280 CW-C WR ⁽²⁾	KE-2340-0019-5	280x4,5 / black	5 - 76	220	-40° - 85°C	-10°C	100
CABLE-TIE FS 360 CW-C WR ⁽²⁾	KE-2340-0021-1	360x4,5 / black	5 - 101	220	-40° - 85°C	-10°C	100
CABLE-TIE FS 380 CW-C WR ⁽²⁾	KE-2340-0023-7	380x4,5 / black	5 - 110	220	-40° - 85°C	-10°C	100
CABLE-TIE FS 200 DW-C WR ⁽²⁾	KE-2340-0025-2	200x7,5 / black	5 - 48	460	-40° - 85°C	-10°C	100
CABLE-TIE FS 280 DW-C WR ⁽²⁾	KE-2340-0027-8	280x7,5 / black	5 - 76	460	-40° - 85°C	-10°C	100
CABLE-TIE FS 360 DW-C WR ⁽²⁾	KE-2340-0029-4	360x7,5 / black	5 - 101	460	-40° - 85°C	-10°C	100
CABLE-TIE FS 500 DW-C WR ⁽²⁾	KE-2340-0031-0	500x7,5 / black	20 - 145	460	-40° - 85°C	-10°C	100
CABLE-TIE FS 550 DW-C WR ⁽²⁾	KE-2340-0032-8	550x9,0 / black	20 - 160	680	-40° - 85°C	-10°C	100
CABLE-TIE FS 780 DW-C WR ⁽²⁾	KE-2340-0033-6	780x9,0 / black	20 - 235	680	-40° - 85°C	-10°C	100

⁽¹⁾ acc UL318291 ⁽²⁾ Weather Resistant

4. User Information

4.1 Safety Coefficient

Election of safety coefficient in line with working conditions: **2 < Safety factor < 10.**

Preload capacity with cable tie pliers: from **5 kg to 25 kg.**

Preload capacity with normal pliers: from **2 kg to 15 kg.**

$$\frac{\text{Breaking Load}}{\text{Safety Coefficient}} = \text{Preload} + \text{Working Load}$$

4.2 Storage

This product has a 5-year shelf life from date of manufacturing, stated on the carton label, when stored in a humidity controlled storage (10°C to 27°C and <75% relative humidity).

4.3 Safety note

Warning. It is important to remember that, once fastened, a cable tie is difficult to reopen, unless a robust pair of pliers or scissors are used.

THEREFORE IT IS DANGEROUS TO FASTEN THE CABLE TIE AROUND PARTS OF THE HUMAN BODY OR LET THE PRODUCT BE HANDLED BY UNQUALIFIED PERSONS OR BY CHILDREN.

5. Additional information

To request additional product information, see address below.

Important Notice

All statements, technical information and recommendations contained in this document are based upon tests or experience that 3M believes are reliable. However, many factors beyond 3M's control can affect the use and performance of a 3M product in a particular application, including the conditions under which the product is used and the time and environmental conditions in which the product is expected to perform. Since these factors are uniquely within the user's knowledge and control, it is essential that the user evaluates the 3M product to determine whether it is fit for a particular purpose and suitable for the user's method or application.

Values presented have been determined by standard test methods and are average values not meant to be used for specification purposes.

All questions of warranty and liability relating to 3M products are governed by the terms of the respective sale subject, where applicable, to the prevailing law.

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