



• Before you source cable ties or related nylon products, please make a correct choice due to different application purpose

Application Area	Material	Function	Flam Class	Min Install Temp.	Operation Temp.
General Purpose	Nylon 66(PA66)	General	UL-94,V2	-10°C(14°F)	-40°C~+85°C(-40°F~+185°F)
Heat Stabilized	Nylon 66(PA66)	Heat Stabilized	UL-94,V2	-10°C(14°F)	-40°C~+115°C(-40°F~+239°F)
Extremely High Temp	Nylon 46(PA46)	High Temp Resistant	UL-94,V2	-10°C(14°F)	-40°C~+135°C(-40°F~+275°F)
Strong UV Light	Nylon 66(PA66)	Strong Weather Resistant	UL-94,V2	-10°C(14°F)	-40°C~+85°C(-40°F~+185°F)
Cold Area	Nylon 66(PA66)	Low Temp Resistant	UL-94,HB	-20°C(0°F)	-40°C~+85°C(-40°F~+185°F)
Extremely Cold Area	Nylon 66(PA66)	Extreme Low Temp Resistant	UL-94,HB	-40°C(-40°F)	-40°C~+85°C(-40°F~+185°F)
Better Flam. Ability	Nylon 66(PA66)	Better Flam Class	UL-94,V0	-10°C(14°F)	-40°C~+85°C(-40°F~+185°F)



**How to choose a right cable ties?**

The most important characteristics of a cable tie are:

- The raw-material they are made of (chemicals, weather, and heat resistance, low temperature resistance, the flammability rating)
- The tensile strength they can stand
- The max diameter they can bundle
- The shape of the tie in case of particular applications
- Smoke and heat generation (Suitable for use in air-handling spaces (plenums))

**Chemical Resistant**

- please ask for information about the chemical resistance, if you need to apply the cable ties into a special area

**UV Resistant**

- All polymers including the polyamides used for the production of cable ties are sensitive to UV radiation. The most common additive used for protecting polyamides from UV radiation is carbon powder commonly known as "carbon black".
  - Natural Cable Ties have low resistance to UV radiation, but natural color usually can reflect the sunlight, so it could be used for general purpose outdoor. But not suggested for outdoor application.
  - Black Cable Ties are additivated with carbon black. They have improved weather and UV radiation resistance and are better suitable for outdoor applications, but this is not enough to protect the material from the damage due to the UV-radiation for a long time.
  - For these needs the weather resistance cable ties could be used, and if for a long term of outdoor use, we strongly suggest you to choose Strong UV resistance (weather resistance) material and our strong UV resistance material, it has been tested by UL as an available long term outdoor application.(supposed to be >7 years)
- Polymers are also sensitive to temperatures.

**Temperature resistance**

- Normally, the polyamide material without any additive, it only can be installed under the temperature of -10°C (14°F), and the material will become very brittle with the temperature of lower than -10°C (14°F). So for the normal grade polyamide material, we do not suggest you to still install the cable ties if the temperature is lower than -10°C (14°F).
- Many people is doubting that "what's the operation temp" means? usually it means the temperature the cable ties still could be worked after installation.
- So if you need to install a cable ties under extremely low temperature, please ask for the correct material.
- The polyamide material is really sensitive to the moisture. If without moisture, the material will become brittle. So please do not open the bag for a long time before you use, and also after using, please close the bag immediately.
- In the dry and Cold winter, please do not keep the cable ties in a cold and dry weather. We do not suggest you to move out the Cable Ties from the conditioned warehouse if you are not ready to use it.
- The best condition for storage of Cable Ties is 23°C (73.4°F), at the humidity of 50%.

**Flamability**

- The UL 94 test , the Standard for Safety of Flammability of Plastic Materials for Parts in Devices and Appliances testing. The classifications relate to materials commonly used in manufacturing enclosures, structural parts and insulators found in consumer electronic products (V-0, V-1, V-2, HB, from the highest level to the lowest)

**New standard from UL 62275**

- Loop tensile strength  
Type 1 or 11 based,  
No individual value shall be less than 50 % of the loop tensile strength declared after after heat aging, after temperature cycling.  
Type 2 or 21 based,  
No individual value shall be less than 100 % of the loop tensile strength declared after after heat aging, after temperature cycling.
- Minimum installation temperature and operation temperature test  
According to the new standard of UL62275, the minimum installation temperature, and operation temperature test should be made. Different factory they will declare different minimum installation temperature, and operation temperature as well. so new UL will show such information and to show the quality of the products, and the characters of the products.

- Smoke and heat generation

AH-1: Suitable for use in air-handling spaces – 1 (plenums) (for Metallic component, like stainless steel cable ties)  
AH-2: Suitable for use in air-handling spaces – 2 (plenums) (for Non-metallic component and Composite component, like nylon cable ties, cable ties fixing, coated stainless steel cable ties)