

## PA12 NYLON @df

PA12 NYLON @df is a high performance polyamide filament which natural colour is crystal clear. The polymer nylon PA12 is widely used in the automotive, machinery and engineering industry since it combines mechanical strength, flexibility, transparency, UV resistance and superior chemical resistance. PA12 NYLON @df is easy to print, has a high impact strength, even at low temperatures, a very high glass transition temperature and has a low water absorption compared with other polyamides which leaves the mechanical properties unaffected. PA12 NYLON @df is the filament to print objects with a top performance.

### Features:

- Strong & flexible
- Crystal clear natural colour
- Superior chemical & UV resistance
- Low water absorption



### Colours:

PA12 nylon @df is available from stock in clear, white and black. For other colours a minimum of 20kg  $\pm$  10% is required.



### Packaging:

PA12 NYLON @df is available in nearly any type of packaging and labelling, but will be supplied always in a vacuum bag, due to the moisture sensitivity of PA12 NYLON. Ask our team to help you customizing your product.

### Additional info:

PA12 NYLON @df needs to be dried for good 3D print results, A standard air-circulated oven is sufficient. A guideline for drying is 2-3 hours at 110-130°C for 100 gram (Beware that the reel can only be heated up to 60°C. In such cases please double the drying time).

Recommended temperature for heated bed is  $\pm$  100-110°C or even higher. PA12 NYLON @df will not bond to glass, but adheres well to masonite, poplar wood or blue painters tape.

PA12 NYLON @df can be used on most common desktop FDM or FFF technology 3D printers.

Storage: Cool and dry (15-25°C) and away from UV light. This enhances the shelf life significantly.

### Dimensions

| Size   | Ø tolerance  | Roundness  |
|--------|--------------|------------|
| 1,75mm | $\pm$ 0,05mm | $\geq$ 95% |
| 2,85mm | $\pm$ 0,10mm | $\geq$ 95% |

### Physical properties

| Description                            | Testmethod | Typical value                                    |
|--|------------|--|
| Specific gravity                       | ISO 1183   | 1,05 g/cc  |
| Viscosity number (in relation to PA12) | ISO 307    | 160 $\pm$ 10 cm <sup>3</sup> /g (medium viscous) |
| Tensile strength                       | ISO 527    | 58 Mpa   |
| Strain at break                        | ISO 527    | >100%  |
| Tensile modulus                        | ISO 527    | 2020 MPa   |
| Impact strength Charpy method 23°C     | ISO 179    | Unnotched No B<br>Notched 13 KJ/m <sup>2</sup>   |
| Shore D Hardness                       | ISO 868    | 84   |

### Thermal properties

| Description         | Testmethod | Typical value    |
|---------------------|------------|------------------|
| printing temp.      | -          | 255-275°C        |
| melt temp.          | -          | 270°C $\pm$ 10°C |
| HDT 264psi.annealed | ISO 75-2/A | 136°C            |