# 1. PRODUCT NAME

SHS-COPA60

# 2. GENERAL DESCRIPTION

Powder compound for Selective Heat Sintering (SHS) to be processed into plastic parts. Parts are for prototypes which can be used as functional parts depending on the usage. The compound is a mixture of polyamide and polycarbonate. It has been developed for general use for the SHS 3D printing process using a BluePrinter.

The compound is a free flowing and unpigmented white powder. It is delivered in PE-bottles for printing or mixing with the de-powdering unit compound and filling of the Blueprinter drawers.

**100% SHS-COPA-60** refers to the material from the PE-bottles which is used for the sintering and it is recommended for obtaining the best quality print mode.

33% SHS-COPA60 refers to the mixture of 2/3 of the re-used material and 1/3 of the 100% SHS-COPA60.

The re-used material is defined as the downsized powder coming out of the depowdering unit. This material is the excess of powder from the sintering process, cake and drawers material, which has been poured into the depowdering unit and downsized. The user manual contains a more detailed explanation of the re-use process details.

Strongly Yellow discolored material should be discarded.

#### 3. TYPICAL PROPERTIES OF THE COMPOUND

Form :	Free flowing powder
MFR (ASTM D1238 – 5Kg):	4 g/10min
Melting temperature (ASTM D3418):	109 °C
Particle size (ASTM D4468):	Average 73µm
Bulk Density:	0.47 g/cm <sup>3</sup>

## 4. TYPICAL PROPERTIES OF SHS PRINTED PARTS

	100% SHS-COPA60	33% SHS-COPA60
Tensile strength (ASTM D638 - Typel):	15 MPa	11 MPa
Young's Modulus (ASTM D638):	600 MPa	350 MPa
Elongation at break (ASTM D638):	3-8%	3-5%
Typical parts density:	1.0 g/cm <sup>3</sup>	0.9 g/cm3



SHS-COPA60 Technical Data Sheet

Tensile strength refers to parts made in the X-Y plane.

Parts should be allowed to crystallize by the controlled cooling in the printer.

### 5. HANDLING AND STORAGE

Store in closed containers. Store cold or at room temperature, in a dry and dark place. Temperature should not exceed 40oC. Handle as organic dusty powder.

Please consult the Safety Data Sheet before use.

Under these conditions a storage life is guaranteed for at least 12 months.

## 6. PRELIMINARY TECHNICAL DATA SHEET:

The data given in this data sheet are based on our latest knowledge and are subject to changes without prior notice. It is not to be understood as guaranteed properties.

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