

## REPSOL ISPLEN P3D820FM

REPSOL ISPLEN P3D820FM is a copolymer which contains mineral load and high processability, with high fluidity specially designed for the FFF and FGF technologies. Recyclable.

### Applications

REPSOL ISPLEN P3D820FM is specifically indicated for 3D Printing, either processed as filament or used directly as pellets, where the main requirement is high mechanical strength together with excellent processability and stability of the constructed part, such as:

- Automotive: prototypes, aesthetic parts, specific tools or tools, etc.
- Aerospace: prototypes.
- Technical components: toys, textiles, footwear, jewelry, leisure, etc.

Recommended melt temperature range from 190 to 250°C. Processing conditions should be optimized for each production line.

PROPERTIES*	VALUE	UNIT	TEST METHOD
<b>GENERAL</b>			
Melt flow rate (230°C/ 2,16 kg)	20	g/10 min	ISO 1133
<b>MECHANICAL</b>			
Flexural modulus of elasticity	2500	MPa	ISO 178
Izod impact strength (23°C, notched)	3	kJ/m <sup>2</sup>	ISO 179

\*Properties for injection.

PROPERTIES*	VALUE	UNIT	TEST METHOD
<b>GENERAL</b>			
Melt flow rate (230°C/ 2,16 kg)	20	g/10 min	ISO 1133
<b>MECHANICAL</b>			
Flexural modulus of elasticity	1000	MPa	ISO 178
Izod impact strength (23°C, notched)	1,1	kJ/m <sup>2</sup>	ISO 179
<b>THERMAL</b>			
HDT 0,45MPa	32	°C	ISO 75

### Storage

REPSOL ISPLEN P3D820FM should be stored in a dry atmosphere, on a paved, drained and not flooded area, at temperatures under 60°C and protected from UV radiation. Storage under inappropriate conditions could initiate degradation processes or undesired migration of additives included in its formulation which may have a negative influence on the processability and properties of the transformed product.

### Recommendations

- Drying

It is recommended to dry the material for about 2 h at 80°C before use.

- Filamentation

For a better finish it is recommended to use air to cool.

- Build surface

Packaging tape is a readily available surface that is also Polypropylene based, so it can be a great option. A thick strip of packing tape along with a heated bed can greatly improve the success of your first layer with this material. Some packing tapes melt around 70-90 °C so it is important to keep the heated bed at a temperature slightly less than the melting point of the tape. The use of a primer as the Smart Stick is also highly recommended. Also, others useful primers are ULTIMAKER adhesive sheets.

- Rafts / Brims

To protect the base layer, consider using a raft/brim for your prints. It will act as an interface between the hot build surface and the bottom of your part.

- Heated chamber or enclosure

Using a printer that has a heated chamber will help eliminate warping. Temperatures of 55 - 95 °C for a heated chamber will usually work well. Having a standard enclosure can also significantly control warping when used with the heated bed, since the bed will help heat the air around the part, which is contained by the enclosure. However, be careful to control the heated bed temperature to avoid damaging the packaging tape as mentioned above. When using another adhesive including the Smart Stick, it is recommended to follow the adhesive manufacturer's instructions.

### Disclaimer

This grade complies with the European regulations for materials for use in food contact. This grade is not intended to be used in medical, pharmaceutical, or healthcare applications, therefore Repsol does not authorize its use in them.

Repsol does not grant express or implicit guarantees that extend beyond the description contained herein. Nothing herein shall constitute any guarantee of merchantability or fitness for a particular purpose. Before using a product sold by Repsol, users must make their own independent determination that the product is safe, legal, and technically

suitable for its intended use. Repsol does not assume any responsibility for the use of its materials together with other materials.

### Related documents

The following related documents are available on request, and represent various aspects on the usability and safety of the product:

- Safety data sheet
- Statement on compliance with food contact regulations

**Recommended consumption period:** 12 months from the raw material reception

**November 2021**