

## Product description

Colour	Weight (mg)	Size (mm)	Bulk density (g/l)	Packaging	Approved for direct food contact
Black	1.2	2.0 – 4.0	51.0 – 55.0	Bulk / Bag	No

## Physical properties

	Test method	60g/l	80g/l	30g/l*
Compressive strength	ISO 844			
25% strain (kPa)	5mm/min	340	500	150
50% strain (kPa)		475	700	220
75% strain (kPa)		1,000	1,600	460
Tensile strength (kPa)	ISO 1798	800	1,040	430
Tensile elongation (%)		17	15	21
Compression set	ISO 1856 (Method C)			
25% strain – 22 hours – 23°C (%)	Stabilising 24h	11.5	11.0	12.0
Burning rate (mm/min)	ISO 3795			
	12.5mm thick	60	50	95
Surface resistance (Ω)	EN 61340-2-3	≤ 10 <sup>7</sup>	≤ 10 <sup>7</sup>	≤ 10 <sup>8</sup>

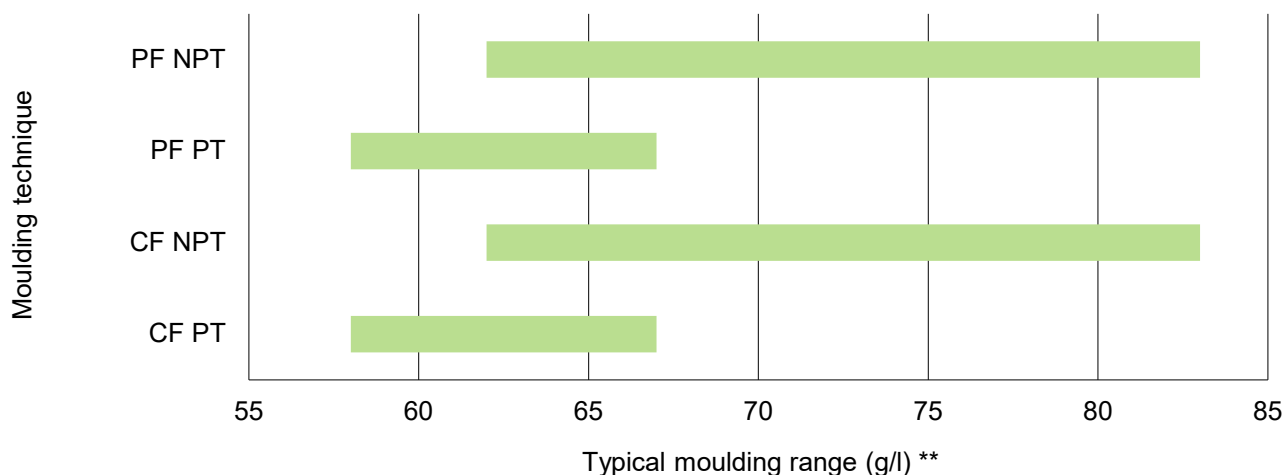
ARPRO 5152 ESDP is ideal for the protection of electro-sensitive goods. The specified surface resistance is maintained for more than 5 years. Electrostatic discharge (ESD) is the sudden flow of electricity caused by sudden contact between two objects with different electrical potentials. ARPRO 5152 ESDP dissipates the electrical charge, therefore protecting goods packed using this material. ARPRO 5152 ESDP is also engineered for on-site expansion to lower bulk densities, starting at 20g/l.

## Direct moulding

ARPRO 5152 ESDP can be moulded using Crack Fill (CF) and Pressure Fill (PF):

Crack fill: applied to either Pre-Treated (PT) or Non-Pre-Treated (NPT) ARPRO.

Pressure fill: applied to either Pre-Treated (PT) or Non-Pre-Treated (NPT) ARPRO.



\* After on-site expansion to 20g/l.

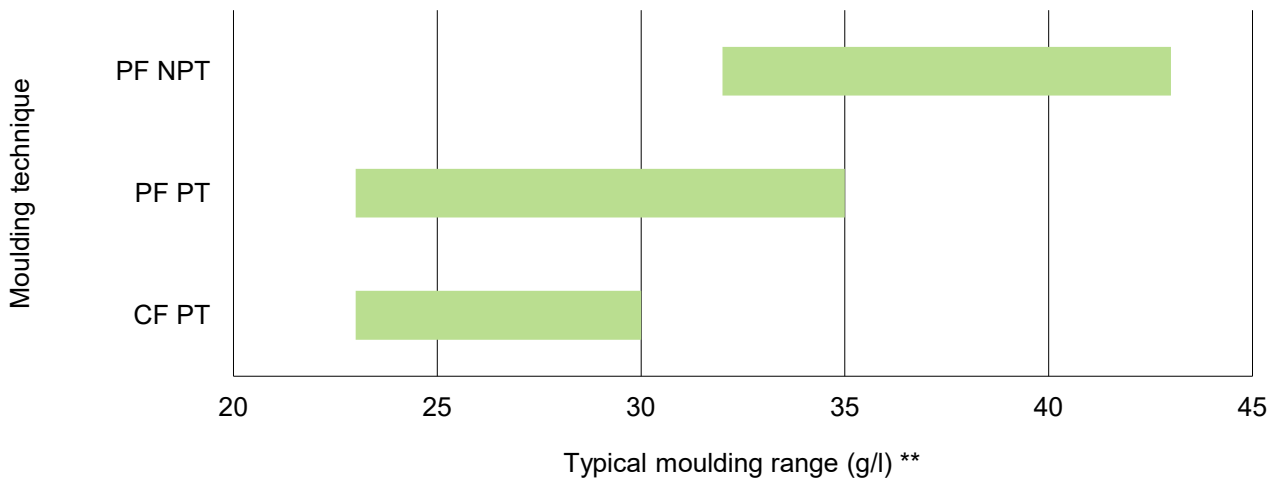
\*\* Shrinkage, surface aspect and cycle time are influenced by process parameters, tool and equipment layout, and part geometry.

### Moulding after on-site expansion

ARPRO 5152 ESDP can be moulded using Crack Fill (CF) and Pressure Fill (PF):

Crack fill: preferably applied to Pre-Treated (PT) ARPRO.

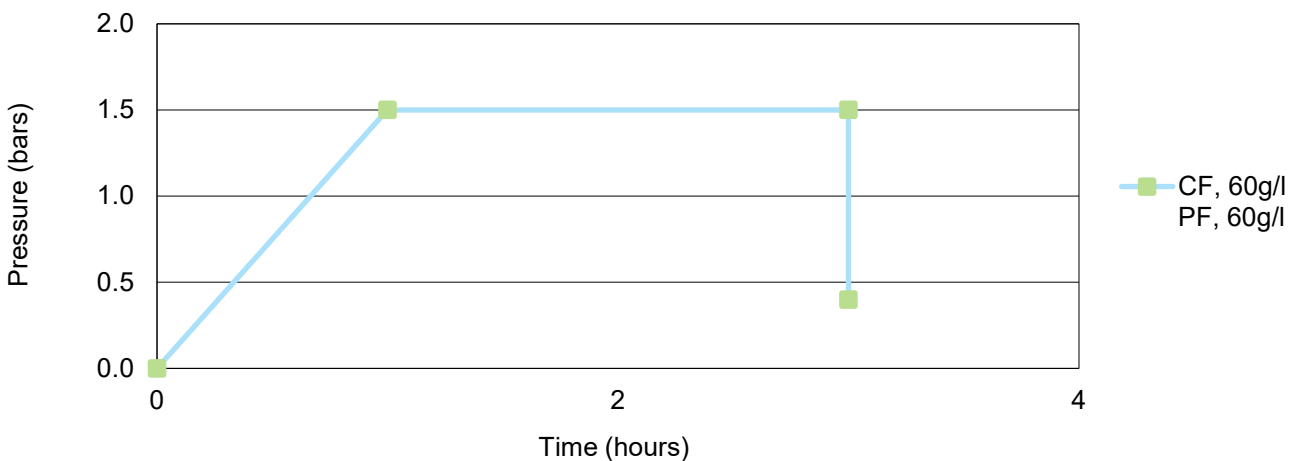
Pressure fill: applied to either Pre-Treated (PT) or Non-Pre-Treated (NPT) ARPRO.



### Pre-treatment for direct moulding

Recommended pre-treatment cycle with pressure tank environment and incoming compressed air both at 23°C:

1 hour up to 1.5 bar, hold at 1.5 bar for 2 hours, decrease and maintain at 0.4 bar throughout production.



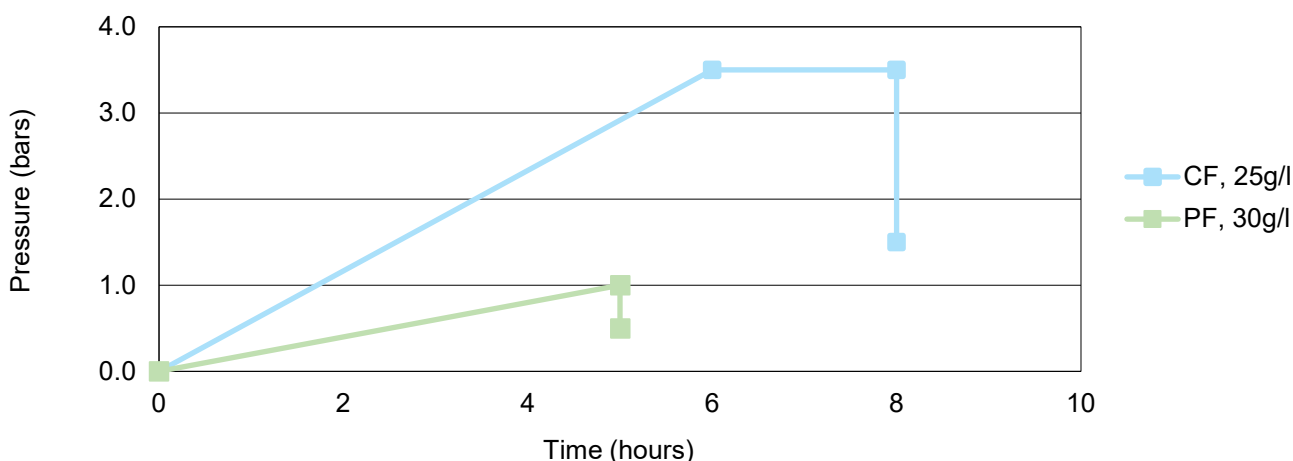
\*\* Shrinkage, surface aspect and cycle time are influenced by process parameters, tool and equipment layout, and part geometry.

## Pre-treatment for on-site expansion

Recommended pre-treatment cycle with pressure tank environment and incoming compressed air both at 23°C:

Crack fill: 6 hours up to 3.5 bar, hold 2 hours at 3.5 bar, decrease and maintain at 1.5 bar throughout production.

Pressure fill: 5 hours up to 1 bar, decrease and maintain at 0.5 bar throughout production.



Pre-treatment cycles can be adapted according to moulding process, density and part geometry:

If internal cell pressure is too high, this may lead to fusion issues. In this case, decrease time, pressure or temperature to improve fusion.

Increase time, pressure or temperature to reduce moulded density and improve aspect.

Operating the pressure tank above ambient temperature, up to a maximum of 50°C, significantly shortens pre-treatment time.

## Post-treatment

For moulded densities below 50g/l and depending on the parts dimensions, post-treatment at a temperature of 80°C is recommended for 3 to 8 hours. This helps to remove water content, as well as ensuring dimensional stability and a geometric shape.

For moulded densities higher than 50g/l, no post-treatment is required. Stabilisation to ambient conditions for 4 hours before dimensional quality testing is recommended. For highly compressed parts, post-treatment is compulsory to obtain a nice surface aspect, for example 3 to 8 hours at a temperature of 80°C.

## Shrinkage

Typical values range from 1.8% to 2.2% after direct moulding and from 2% to 2.6% after on-site expansion. The higher the moulded density, typically the lower the shrinkage.

## Storage

A storage temperature above 15°C is strongly recommended.

Indoor storage strongly recommended.

If stored outdoors, it is strongly recommended to keep the material indoors for 24 hours before moulding.