



TRAYS & SMALL BOXES

TRAYS AND SMALL BOXES – KEY TECHNICAL REQUIREMENTS



Main Technical Requirements

- Excellent processability!
- High stiffness (stack., down gauging)
- Good impact resistance
- Anti static properties
- Transparent or coloured
- Microwave re-heating
- Limited overall migration of additives
- Can be frozen (-20°C)

End product properties

- Good surface aspect
- Softness for the lids
- Printability (NO IML process)
- Transparency
- “Odourless” packaging



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1° Due to the transformation technology, resin fluidity range is well limited.

- * For polypropylene resins MFI range from 1.3 to 6 gr/10 min.

- * For polystyrene resins MFI range from 2.4 to 15 g/10min.

2° In PS, customers use a blend HIPS / GPPS

3° In ETF for food packaging, a large part of our resins are used in multi layers structure.

POLYPROPYLENE RESINS

| Polypropylene | Melt flow index | Specific features |
|------------------|-----------------|-------------------|
| Homopolymer | | |
| PPH 3060 | 1.9 | Non nucleated |
| PPH 4060 | 3 | Non nucleated |
| PPH 4022 | 3 | Clarified |
| PPH 5060 | 6 | Non nucleated |
| Random Copolymer | | |
| PPR 3260 | 1.8 | Non nucleated |
| PPR 3221 | 1.8 | Clarified |
| Impact Copolymer | | |
| PPC 3660 | 1.3 | Non nucleated |
| PPC 3645 | 1.3 | Nucleated |
| PPC 4660 | 3.5 | Non nucleated |
| PPC 4640 | 3.5 | Nucleated |
| PPC 5660 | 7 | Non nucleated |



POLYSTYRENE RESINS : IMPACT GRADES (IN ETF)

| | MFI (g/10mn) ISO 1133H | El. at break (%) ISO 527-2 | Vicat 5 kg (°C) 306B50 | Modulus MPa |
|-------------|-------------------------------------|---|-------------------------------------|-----------------------|
| 7240 | 4,5 | 60 | 87 | 1850 |
| 8260 | 2.8 | 60 | 90 | 1600 |
| 3450 | 7 | 55 | 95 | 2250 |
| 3630 | 15 | 25 | 89 | 2300 |



Heat resistance articles
Coffee containers

POLYSTYRENE RESINS : CRYSTAL GRADES (IN ETF)

| | MFI (g/10mn) ISO 1133H | El. at break (%) ISO 527-2 | Vicat 5 kg (°C) 306B50 | Modulus MPa |
|-------------|-------------------------------------|---|-------------------------------------|-----------------------|
| 1160 | 2.4 | 48 | 105 | 2900 |
| 1340 | 4.0 | 44 | 93 | 2900 |
| 1540 | 12.0 | 42 | 86 | 2900 |

High heat resistance,
hot fill

General purpose

Balance between
- product performance
- processability

