



## RMPP141 NATURAL

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**RMPP141** is a Polypropylene (PP) Compound specifically developed for rotational moulding, available as ambient ground powder or pellets. Black is also available ex stock.

It has excellent mouldability and its enhanced properties allow it to be used in demanding applications for which polyethylene is not the optimum polymer.

**RMPP141 Natural** complies with U.S. 21 CFR F.D.A. regulation Part 177.1520 clause (c) (1.1) and (d).

### FEATURES:

- **An excellent balance of high stiffness & high impact**
- **Good Temperature Resistance (dry & wet)**
- **High FNCT / ESCR and good chemical resistance**
- **Rated > UV12**
- **Excellent long term creep performance**
- **Improved surface hardness and scratch resistance**

### PROCESSING GUIDELINES:

- Oven temperature ~ 570<sup>0</sup>F to achieve mould surface temperature > 475<sup>0</sup>F
- PIAT 435<sup>0</sup>F – 455<sup>0</sup>F
- Rotation similar to LMDPE
- Smartvents will increase pressure inside mould and assist with reducing warpage and minimising pinholes
- PP can stress whiten so minimise impact when demolding

### OBSERVATIONS:

- Lubricity of PP means little or no mould release needed
- Lower shrinkage than PE
- Less warpage for large surfaces due to stiffness and crystallisation
- Complete crystallisation may take up to 72 hours to obtain optimal physical properties
- Heat is critical for sintering PP, so minimise heat sinks in mould

Properties	Conditions	Units	Nominal Values	Testing Methods
<b>Physical</b>				
Melt Flow Rate	445 <sup>0</sup> F/2.16kgs	g/10 min	13	ASTM D1238
Density <sup>2</sup>		g/cm <sup>3</sup>	0.900	ASTM D1505
<b>Mechanical &amp; Thermal</b>				
Tensile stress <sup>1</sup>	At yield	PSI	3500	ASTM D638
Tensile strain <sup>1</sup>	% At yield	%	5	ASTM D638
Tensile Modulus <sup>1</sup>		PSI	181,000	ASTM D638
Flexural Modulus <sup>1</sup>		PSI	174,000	ASTM D790
FNCT <sup>2</sup> 2% Ige *	5MPa @ 122 <sup>0</sup> F	Hours	>300	ISO16770
	6MPa @ 122 <sup>0</sup> F	Hours	170	10x10mm x 1.6mm notch
ESCR <sup>1</sup>	2% Igepal *	Hours	> 1000	ASTM D1693
Shore D Hardness <sup>1</sup>			62	ASTM D2240
HDT <sup>1</sup>	66 PSI	Deg F	240	ISO 75-2 4mm Edgewise
HDT <sup>1</sup>	264 PSI	Deg F	144	
ARM Impact <sup>1</sup>	73 <sup>0</sup> F ¼" thick	Ftlb	105	ARM Method
ARM Impact <sup>1</sup>	32 <sup>0</sup> F ¼" thick	Ftlb	55	ARM Method
ARM Impact <sup>1</sup>	-4 <sup>0</sup> F ¼" thick	Ftlb	27	ARM Method
Poisson Ratio			0.44	ASTM D638

**Notes:** <sup>1</sup> Roto moulded      <sup>2</sup> Compression moulded      \* Or equivalent

**Important:** *The information contained in this document is of a general nature only and is intended to provide an indication of the potential properties and benefits of a particular polypropylene compound. The statistical and other information provided in this document has been determined in laboratory test conditions. Accordingly, there may be differences in performance in a production environment including having regard to the materials used. The information contained in this document should not be used as a sole basis for production or manufacturing purposes. Independent testing verification and independent professional advice should be obtained before making a decision to use any product or to apply any method or process. To the full extent permitted by law, PSD Rotoworx Pty Limited (ACN 166 016 244) ("PSD Rotoworx"), its related entities, their directors and employees: (i) give no warranty or representation that the information contained in this document is accurate and complete in every particular, and (ii) disclaim all liability for reliance on the information contained in this document.*