

# ROYALTUF<sup>®</sup> 372P20

## Polymer Modifier

### Description

ROYALTUF<sup>®</sup> 372P20 polymer modifier is a chemically modified EPDM.

### Chemical Structure

Composition: Styrene-Acrylonitrile (SAN) modified Ethylene/Propylene/Non-conjugated Diene (EPDM) Elastomer

### Typical physical properties of ROYALTUF<sup>®</sup> 372P20 polymer modifier

Appearance	Pellets
Melt Flow Rate (265°C/21.6kg)	20 g/10min
Specific Gravity @ 25 deg C	0.98
SAN Graft Level	50 weight %

### Features

- Increases toughness of plastics such as SAN, Polycarbonate, Polyester/Polycarbonate Alloys.
- Outstanding weatherability and UV resistance.
- SAN resin is the continuous phase in this product

### Properties of ROYALTUF<sup>®</sup> 372P20 polymer modifier in Blends with PBT/Polycarbonate

Ingredients	A	B	C	D	E
Royaltuf 372P20	0	10	15	20	20
PBT	50	55	65	60	40
Polycarbonate	50	35	20	20	40
Property					
Notched Izod Impact (J/m)					
Room Temperature	43	1047	960	979	1047
-29°C	48	112	100	119	112
-40°C		64	91	96	101
Hardness (Rockwell R)	122	121	119	117	118
Tensile Strength (MPa)		54	48	47	48
Flexural Modulus (MPa)		2142	2050	1945	2039
Heat Deflection @ 1.82MPa (°C)		78	72	68	90

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PBT was Valox 310 and Polycarbonate was Lexan 141. Both were dried for two hours at 110°C. Generation of this data was via twin-screw extrusion and injection molding.

**Properties of ROYALTUF<sup>®</sup> 372P20 polymer modifier in Blends with Polycarbonate**

Property	0 Wt % RT 372P20	5 Wt % RT 372P20	10 Wt % RT 372P20
Notched Izod Impact, 1/8" (J/m)			
Room Temperature	1010	960	910
-29°C	170	800	850
-40°C	140	230	800
Notched Izod Impact, 1/4" (J/m)			
Room Temperature	130	850	910
Hardness (Rockwell R)	123	121	119
Heat Deflection @ 1.82MPa (°C)	138	135	135

Polycarbonate is Lexan 130 and was dried for two hours at 110°C before extrusion and injection molding. Generation of this data was via twin-screw extrusion followed by injection molding.

**Processing Recommendations**

This is intended as a general guide only. Please contact your local sales representative with specific questions. Addivant<sup>™</sup> technical service personnel can recommend a screw configuration for laboratory evaluations.

Suggested Processing Temperatures

**Extrusion Conditions**

	<u>Polycarbonate</u>	<u>PBT/Polycarbonate Blends</u>
Zone 1	220°C	200°C
Zone 2	220°C	250°C
Zone 3	220°C	250°C
Zone 4	220°C	250°C
Die	230°C	260°C

Resins should be dried according to industry guidelines.

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## **Handling and Storage**

Avoid generation of dust when handling and provide adequate ventilation and dust collection at machinery. Fine dust dispersed in air may ignite. Keep away from heat and sources of ignition. Keep containers tightly closed when stored. Store in a dry, well-ventilated space.

**For additional handling and toxicological information consult the Addivant<sup>™</sup> Material Safety Data Sheet.**

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