

# Polypropylene Random Copolymers



FABRICATION FAMILY			EXTRUSION			FILM		MOLDING								
GRADE NAME			R1302NS <i>(Mini-Random)</i>	R1302N <i>(Mini-Random)</i>	R1002	R3207SB	R3208	R7012NA	R7012NA2	R7020NA	R7030NA	R7035NA	R7045NA	R7050NS	R7070NA	R7085NA
PRIMARY APPLICATION			Thermo-forming / Extrusion Blow Molding	Thermo-forming / Extrusion Blow Molding	Thermo-forming / Extrusion Blow Molding	BOPP	Cast Film	Consumer / Housewares	Consumer / Housewares	Consumer / Housewares	Packaging	Packaging	Packaging	Caps & Closures	Packaging	Packaging
PROPERTIES	UNITS	TEST METHOD														
Melt Flow Rate <i>(2.16 kg at 230°C)</i>	g/10 min	ASTM D1238	2.1	2.2	1.9	7.0	8.0	12.0	12.0	20.0	30.0	35.0	45.0	50.0	70.0	85.0
Tensile Strength @ Yield <i>50 mm/min (2 in/min)</i>	MPa (psi)	ASTM D638	37 (5,350)	30 (4,350)	26 (3,800)	19 (2,750)	25 (3,650)	27 (3,900)	27 (3,900)	27 (3,900)	27 (3,900)	28 (4,050)	28 (4,050)	28 (4,050)	28 (4,050)	28 (4,050)
Tensile Elongation @ Yield	%	ASTM D638	9	9	9	11	9	9	9	8	8	8	8	8	9	9
Flexural Modulus <i>1% Secant 1.3 mm/min (0.05 in/min)</i>	MPa (psi)	ASTM D790	1580 (230,000)	1750 (255,000)	930 (135,000)	550 (80,000)	760 (110,000)	1100 (160,000)	1120 (160,000)	1100 (160,000)	1100 (160,000)	1100 (160,000)	1060 (155,000)	1070 (155,000)	1020 (150,000)	1000 (145,000)
Notched Izod Impact Strength @ 23°C	J/m (ft-lb/in.)	ASTM D256A	77 (1.4)	70 (1.3)	60 (1.1)	90 (1.7)	50 (0.9)	53 (1.0)	53 (1.0)	47 (0.9)	44 (0.8)	38 (0.7)	50 (0.9)	55 (1.0)	40 (0.7)	37 (0.7)
Heat Deflection Temperature (HDT) @ 0.45 MPa / (66 psi)	°C (°F)	ASTM D648	84 (183)	84 (183)	84 (183)	-	81 (178)	83 (181)	83 (181)	83 (181)	83 (181)	78 (172)	83 (181)	-	-	-
Main Feature			High slip content	Good clarity	Suitable for multilayer structures	Heat sealable skin layer with slip and antiblock	High clarity	Fast cycle time / low shrinkage / good clarity	Fast cycle time / low shrinkage / superior clarity	Fast cycle time / low shrinkage / good clarity	Low taste and odor / high clarity	Low taste and odor / high clarity / low blooming	Low taste and odor / improved cycle time / high clarity	Improved organoleptics	Low taste and odor / fast cycle time / superior clarity and low blooming	Low taste and odor / fast cycle time / superior clarity
Application Details			EBM - large containers and thick gauge thermo-forming and large part thermo-forming	Clear bottles for food packaging of syrup, condiments, sauces and fruits. Clarified thermo-forming	Non-clarified bottles for institutional food packaging. Thermo-forming	Multilayer sealable films for snack food, bakery, and tobacco packaging	Mono and multilayer cast films or multilayer blown films for packaging, retort pouches, shrink and stretch wrap	Clear food storage containers, clear organizers for fishing tackle, hardware and hobby supplies, clear bins and drawers	Clear food storage containers, clear organizers for fishing tackle, hardware and hobby supplies, clear bins and drawers	Clear food storage containers, clear organizers for fishing tackle, hardware and hobby supplies, clear bins and drawers	Clear food storage containers, clear organizers for fishing tackle, hardware and hobby supplies, clear bins and drawers	Clear food packaging, multimedia cases, cosmetic personal products	Clear food packaging, multimedia cases, cosmetic personal products	Caps and closures for bottles and containers, clear thin wall injection molding applications	Clear food packaging, multimedia cases, cosmetic personal products	Clear food packaging, multimedia cases, cosmetic personal products

Suffice Legend: A = Anti-static; B = Anti-block; E = Nucleation & Mold Release; G = Anti-gas fading; H = Heat stabilized; N = Nucleated/clarified; S = Slip/mold release; U = UV stabilizer; Z = Others