

TECHNICAL BULLETIN

reSound™ OM Thermoplastic Elastomers

Bio-based TPEs Deliver on Performance

Designed to support sustainability goals, the reSound OM TPE formulations utilize between 40 and 50 percent bio-renewable content derived from sugarcane and offer hardness levels and property retention comparable to traditional petroleum-based TPEs.

Available in four overmolding grades compatible with polypropylene (PP), and one grade that is suited for overmolding onto ABS, all grades are formulated for durability, delivering property retention and UV resistance comparable to traditional TPEs.

Plus, with an opaque natural color, all reSound OM materials are easily colorable, a major requirement for applications such as cosmetics packaging, personal care products, household appliances, and consumer electronics.

AVIENT™

KEY PROPERTIES AND OVERMOLD PERFORMANCE

reSound™ OM 5510 grades for overmolding onto PP and reSound OM 5520 for ABS

	reSound OM 5510-30N	reSound OM 5510-45N	reSound OM 5510-60N	reSound OM 5510-70N	reSound OM 5520-55N
Bio-derived Content (%)	40%	40%	50%	50%	49%
Hardness, Shore A	30	45	60	70	54
Specific Gravity	0.88	0.88	0.89	0.89	0.95
50% Modulus, PSI	96	153	247	384	258
100% Modulus, PSI	137	251	343	462	353
Tensile Strength, PSI	264	438	625	608	637
Elongation, %	280	215	306	271	319
Tear Strength, PLI	58	84	109	132	146
OM Substrate	PP	PP	PP	PP	ABS
OM Avg. Peel, PLI	-	17	22	20	17
OM Max. Peel, PLI	12	19	23	20	19

UV RESISTANCE

• UV testing: QUV-A Test, 0.68 @ 45C • Comparable results to traditional TPEs

reSound OM 5510 for PP

	reSound OM 5510-45N	reSound OM 5510-60N
Bio-derived Content (%)	40%	50%
Hardness, Shore A	45	60
Delta E after 150 hrs.	0.22	0.23
Delta E after 300 hrs.	1.68	0.56

AGING – BONDING STRENGTH ONTO ABS

reSound OM 5520-55N	Room Temperature				70C		
	1 day	1 week	2 weeks	6 months	1 week	2 weeks	3 weeks
Bio-derived Content (%)	49%	49%	49%	49%	49%	49%	49%
Hardness, Shore A	54	54	55		54	55	56
OM Substrate	ABS	ABS	ABS	ABS	ABS	ABS	ABS
OM Avg. Peel (N/mm)	2.9	2.9	2.9	3.1	2.9	2.9	2.9
OM Max. Peel (N/mm)	3.2	2.9	3.2	3.2	3.1	3.2	3.1
Failure Mode	Cohesive	Cohesive	Cohesive	Cohesive	Cohesive	Cohesive	Cohesive

AGING – PROPERTY RETENTION

• Tested at room temperature and 70° C for comparison • Hardness, tensile strength elongation and modulus showed great retention

Overmolding onto PP

reSound OM 5510-45N	Room Temperature				70C		
	1 day	1 week	2 weeks	6 months	1 week	2 weeks	3 weeks
Bio-derived Content (%)	40%	40%	40%	40%	40%	40%	40%
Hardness, Shore A	45	46	47	46	46	45	45
Specific Gravity	0.88	0.89	0.89	0.89	0.89	0.89	0.90
50% Modulus, PSI	153	158	154	162	137	136	133
100% Modulus, PSI	251	259	259	261	226	222	218
Tensile Strength, PSI	438	481	451	495	417	470	486
Elongation, %	215	240	211	243	204	227	238
Tear Strength, PLI	84	81	87	82	83	85	84

reSound OM 5510-60N	Room Temperature				70C		
	1 day	1 week	2 weeks	6 months	1 week	2 weeks	3 weeks
Bio-derived Content (%)	50%	50%	50%	50%	50%	50%	50%
Hardness, Shore A	60	60	60	60	60	60	60
Specific Gravity	0.89	0.89	0.89	0.89	0.89	0.89	0.90
50% Modulus, PSI	247	241	244	251	234	244	240
100% Modulus, PSI	343	333	338	339	321	331	326
Tensile Strength, PSI	625	621	647	610	633	662	642
Elongation, %	306	314	309	313	312	315	315
Tear Strength, PLI	109	108	113	113	111	117	115

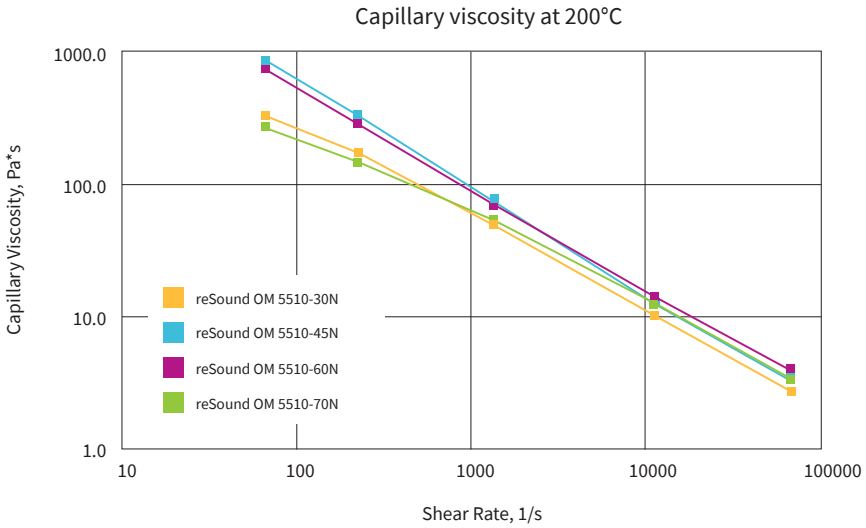
Overmolding onto ABS

reSound OM 5520-55N	Room Temperature				70C		
	1 day	1 week	2 weeks	6 months	1 week	2 weeks	3 weeks
Bio-derived Content (%)	49%	49%	49%	49%	49%	49%	49%
Hardness, Shore A	54	54	55	55	54	55	56
Specific Gravity	0.95	0.95	0.96	0.96	0.95	0.96	0.96
50% Modulus, PSI	258	256	256	265	266	271	257
100% Modulus, PSI	353	355	357	362	373	379	367
Tensile strength, PSI	637	615	637	669	651	674	642
Elongation, %	319	315	319	333	313	319	315
Tear Strength, PLI	146	136	133	142	137	138	141

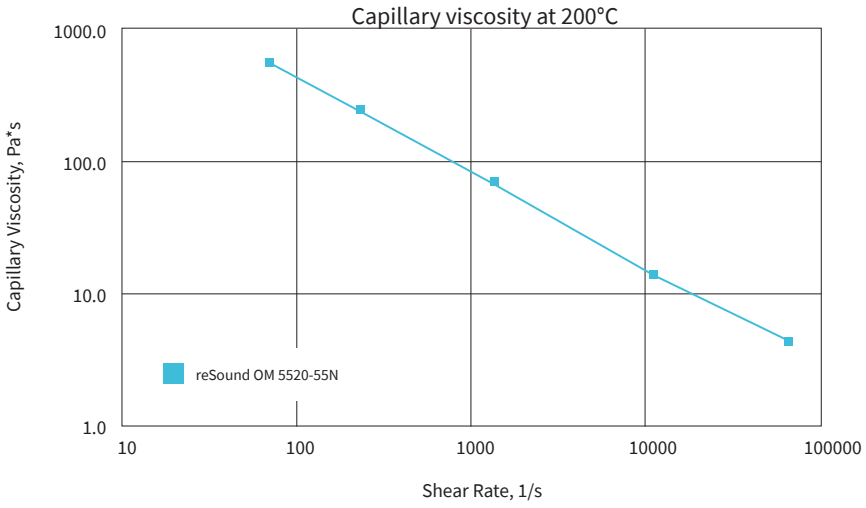
RHEOLOGY

Suitable for injection molding and overmolding

reSound OM 5510 for PP



reSound OM 5520 for ABS



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