SE6635 and SE6660
Heat Cured Silicone Rubber Elastomers

PRODUCT DESCRIPTION

SE6635 and SE6660 are 35 and 65 durometer compounds designed to provide extended low temperature service. They accept moderate amounts of extending fillers and can be blended to provide intermediate hardness ranges. When SE6635 and SE6660 are properly catalyzed, compounded and cured, they can be used for a wide variety of applications requiring finishing by molding, calendering and extruding.

KEY PERFORMANCE PROPERTIES

- Low temperature flexibility to -100C(-148C)
- Blendable
- Translucent

TYPICAL PRODUCT DATA

Properties	SE6635	SE6660
Specific Gravity	1.15+/-0.03	1.22+/-0.03
Appearance	Translucent	Translucent
Polymer Classification (ASTM D-1418)	PMVQ	PMVQ
Williams (ASTM 926)	210	400

SPECIFICATIONS

Typical product data values should not be used as specifications. Assistance and specifications are available by contacting Momentive Performance materials.

ADDITIVES

SILPLUS Elastomers System has a number of additives available to modify the processing and/or cured physical properties of the compounding bases.

Additives	When to Use
SE6916HA	Heat aging stabilized masterbatch to be used at 1.0 part be weight per 100 parts of compounding base or blends thereof to improve the heat age resistance. See SE 6916HA data sheet.
SE6921FR	Flame Retardant containing masterbatch to be used with compounding bases or blends thereof to improve the flame retardance of the compositions. See SE 6921FR data sheet.
SE6925PA	Process Aid masterbatch to be used to adjust the plasticity of compounding bases or blends thereof.
SE6910MO	Magnesium Oxide masterbatch can be used at 1.0 parts per 100 of compounding base to eliminate the need for post cure when B is (2,4 Dichlotobenzoyl) peroxide is used. It may also be used at the 1.0 to 3.0 level to impart improved oil resistance.
SE6930TM	Tensile Strength Enhancer can be used at 1.0 parts per 100 of compounding base to optimize tensile strength when extruding fillers are used.

FABRICATION

Various organic peroxides will vulcanize the compounding bases. Fabricators should make their selection of curing agent on the basis of method of fabrication, desired properties, and safety considerations.

The optimum cure cycle will depend on the method of processing used and the physical dimensions of the vulcanized product. Specific applications will require the use of air post cures.

A = Typical Physical Properties B = GE Quality Control Specifications

Formulations		**A**	**B**	**A**	**B**
SE6635		100	100		
SE6660				100	100
DBPH	Press Cure: 10 min. @ 177C	0.2	0.2	0.2	0.2
	Post Cure: SE6635: 1 hr. @ 200C SE6660: 4 hrs. @ 200C				
ASTM REFERENCE METHOD	**PROPERTIES**				
D-2240	Shore A, Hardness	37	35±5	63	65±5
D-412	Tensile Strength, psi (MPa)	1350 (9.3)	1000 (6.9)	1430 (9.9)	1200 (8.3)
D-412	Elongation, %	700	500	550	400
D-624	Tear, Die B, ppi (Kn/m)	110 (19.3)	60 (10.5)	19.5 (34.2)	125 (21.9)
	Specific Gravity	1.15	1.15±0.03	1.23	1.22±0.03
D-926	Williams Compresion Sets 70 hrs. @ 100C (212F)	17	30	28	40
	70 hrs. @ 150C (300F)	36	40	44	50

Typical Properties Formulations									
SE6635		100	100	75	75	50	50		
SE6660				25	25	50	50	100	100
DCBP-50		1.0		1.0		1.0		1.0	
DBPH			0.2		0.2		0.2		0.2
	Press Cure: DCBP-50:10 min. @ 142C (287F) DBPH: 10 min. @ 177C (350F) Post Cure: 4 hrs. @ 200C (400F)								
ASTM METHOD	**PROPERTIES**								
D-2240	Shore A. Hardness	35	37	40	45	47	50	63	63
D-412	Tensile Strength, psi	1350	1350	1450	1380	1475	1425	1425	1430
	(MPa)	(9.3)	(9.3)	(10.0)	(9.5)	(10.2)	(9.8)	(9.8)	(9.9)
D-412	Elongation, %	855	700	855	660	820	615	730	550
D-624	Tear Di B, ppi	130	110	175	100	180	120	230	195
	(Kn/m)	(22.8)	(19.3)	(30.7)	(17.5)	(31.6)	(21.0)	(40.4)	(34.2)
D-395	Compression Set 70 hrs. @100C (212F)	24	17	20	15	21	16	29	28
	70 hrs. @ 150C (300F)	38	36	38	21	54	28	75	44
D-573	**Heat Age: 70 hrs. @ 200C (400F)**								
	Hardness, change pts	1	3	3	6	6	6	6	6
	Tensile, change %	14	14	4	9	7	4	1	-2
	Elongation, change %	-5	-11	-18	-10	-14	-16	-22	-25

D-573	**Heat Age: 70 hrs. @ 225C (437F)**								
	Hardness, change, pts	4	6	6	9	8	9	9	8
	Tensile, change %	-6	-8	-12	3	-7	8	-10	-5
	Elongation, change %	-19	-26	-25	-27	-29	-23	-37	-34
D-471	**Fluid Immersion: ASTM#1 70 hrs. @ 150C (300F)**								
	Hardness, change pts	-10	-7	-7	-6	-10	-8	-9	-7
	Tensile, change %	-31	-22	-45	-8	-37	-10	-33	-12
	Elongation, change %	-21	-14	-27	-12	-25	-14	-28	-22
	Volume, change %	10	9	10	10	10	13	10	12
	Water: 70 hrs. @ 100C (212F)								
	Hardness, change pts	3	2	3	3	3	3	2	2
	Volume, change%	1	0	1	0	0	0	0	0

Formulation of Test Specimens

	SE6635	100	100	100	100	100	100
	5u Micron Minusil extending filler	25	50	50	75	100	125
	SE6910MO	-	-	1.0	-	-	-
	Bis (2,4-Dichloro-Benzoyl peroxide 50% Active) DCBP-50	1.0	1.0	1.0	1.2	1.2	1.2
	Cure Conditions - 10 min. @ 142C (288F)						
ASTM REFERENCE METHOD	**PROPERTY**						
	Post Cure 4 hrs. @ 205C (401F)						
D-2240	Hardness	40	48	49	55	60	70
D-412	Tensile, psi (MPa)	1100 (7.6)	850 (5.9)	900 (6.2)	800 (5.5)	800 (5.5)	800 (5.5)
D-412	Elongation, %	650	500	450	350	250	200
D-624	Tear, Die B, ppi (Kn/m)	135 (23.7)	140 (24.6)	125 (21.9)	100 (17.4)	85 (14.9)	80 (14.0)
D-395	Compression Set, % 70 hrs. @ 100C (212F)	18	18	15	20	25	35
	70 hrs. @ 150C (300F)	50	50	36	60	50	50
	Formulation of Test Specimens						
	SE6635		100	100	100	100	100
	5u MicronMinusil extending filler		25	50	75	100	125
	2,5 Dimetnyl-2,5 di(ti-butyl peroxy) Hexane 10-% Active (DBPH)		0.2	0.2	0.2	0.2	0.2
	Cure Conditions - 10 min. @ 177C (350F)						

	Post Cure - 4 hrs. @ 205C (401F)						
ASTM REFERENCE METHOD	**PROPERTIES**						
D-2240	Shore A. Hardness		45	53	60	68	74
D-412	Tensile, psi (MPa)		1000 (6.9)	900 (6.2)	800 (5.5)	800 (5.5)	800 (5.5)
D-412	Elongation, %		500	450	400	260	170
D-624	Tear Resistance, Die B, pi (Kn/m)		80 (14.0)	100 (17.5)	100 (17.5)	100 (17.5)	100 (17.5)
D-395	Compression Set, % 70 hrs. @ 100C (212F)		16	18	20	20	25
	70 hrs. @ 150C (302F)		26	29	34	37	40

TYPICAL CURING AGENTS

Peroxides	**Commercial Grades**	**Form**	**Typical Molding Temps.**	**Recommended Use**
Bis(2,4 Di-chlorobenzoyl) Peroxide DCBP-50	CADOX TS-50[1] or LUPERCO CST[2]	50% Active Paste	104C-132C (220F-270F)	Hot Air Vulcanization
Benzoyl Peroxide BP-50	CADOX BS[1] or LUPERCO AST[2]	50% Active Paste	116C-138C (240F-280F)	Molding, Steam Curing
Dicumyl Peroxide	DiCUP 40C[3]	40% Active Powder	154C-177C (310F-360F)	Molding Thick Sections, Bonding, Steam Curing
2,5 Dimethyl-2,5 di(t-butyl peroxy) Hexane DBPH	VAROX[4] or LUPERCO 101XL[2] LUPERSOL 101[2]	50% Active Powder 100% Active Liquid	166C-182C (330F-360F)	Molding Thick Sections, Bonding, Steam Curing

CURING AGENT SUPPLIERS

[1] Trademark of and available from Noury Chemical Corp., Route 78, Burt, New York 14028

[2] Trademark of and available from Lucidol Division, Pennwalt Corporation, 1740 Military Road, Buffalo, New York 14240

[3] Trademark of and available from Hercules Powder Company, 910 Market Street, Wilmington, Delaware 19899

[4] Trademark of and available from R.T. Vanderbilt Company, 30 Winfield Street, E. Norwalk, Connecticut 06855

HANDLING AND SAFETY

Material Safety Data Sheets are available upon request from Momentive Performance materials. Similar information for solvents and other chemicals used with Momentive products should be obtained from your suppliers. When solvents are used, proper safety precautions must be observed.

STORAGE WARRANTY PERIOD

The warranty period is 6 months from date of shipment from Momentive Performance materials if stored in the original unopened container at 35C(95F).

AVAILABILITY

SE 6635 and SE 6660 may be ordered from Momentive Performance materials, Waterford, NY 12188, the Momentive Performance materials sales office nearest you, or where appropriate, an authorized Momentive Silicone product distributor.