October, 1990 Polymers Group Specialty Polymers for Adhesives & Sealants New Kid on the Block" "Introducing the HENKEL Exhibit 1003 STYRENIC BLOCK COPOLYMERS CHEMICAL

	D	S
	Adhesives	Specialty
W	les es	음
Į	Ž.	<b>₹</b>
	Se	
ł	80	으
g	& Sealants	<b>Polymers</b>
l	0	0
B	2	
ı	S	for

TYPICAL PROPERTIES

								ESCO	REZ	TACKIF	ERS										esiv
	SERIES 9000 SERIES EMULSIONS(3)								7000 SERIES	2000					OLINEO	esives & Sealants					
The second second	9271	9241	9191		5340	5320	5300	5380	7312	7105	2596	2520	2393	2101	1580	1504	1315	1310LC	1304	1102	ants
	56	56	56	SOLIDS, wt%	140	125	105	85	112	112	96	20	93	93	80	100	115	93	100	100	RING & BALL SOFTENING POINT, °C
	28	1	46	Tg (MIDPOINT) by DSC, ∘C	\$	ŝ	$\hat{\triangle}$	<b>☆</b>	8	12	4	ω	7	10	6	5	7	5	6	7	MOLTEN GARDNER COLOR
	0.32	0.32	0.30	PARTICLE SIZE, microns	2	2	2	2	11	>18	10	10	9	12	15	10	14	12	14	16	MOLTEN GARDNER COLOR STABILITY, 16h/150°C
	300	300	350	VISCOSITY, cps	85	66	50	36	63	63	48	-16	45	44	34	51	65	46	51	51	Tg (MIDPOINT) by DSC, ℃
	Z	Z	Α	RESIN TYPE (2)	425	400	400	360	720	765	2105	380	995	1130	1065	1850	2570	1460	1640	2400	GPC MOLECULAR WEIGHT,
	(3) ANION		(2) A AL M AF	(1) 40% : 20% ! 40% :	2.3	2.5	2.5	2.4	2.1	2.1	2.6	1.5	2,3	2,4	1.9	2.3	3.0	2.1	2.3	3.3	POLYDISPERSITY, M <sub>W</sub> /M <sub>n</sub>
	ANIONIC; 7.0 pH	MODIFIED ALIPHATIC	ALIPHATIC AROMATIC	40% TACKIFIER 20% ESCORENE UL 7750 40% 158°F MP PARAFFIN WAX	5000	1500	300	100	500	475	500	1	160	175	100	450	1800	300	475	625	VISCOSITY at 177°C,
		LIPHATIC		E UL 7750	70	70	70	70	70	70	110	70	70	70	80	120	155	95	115	155	WAX CLOUD POINT, °C(1)



EXXON CHEMICAL COMPANY P.O. Box 3272, Houston, TX 77253-3272

	ESC	COMER® WAX OPTEMATM E-MA		ľ.	ESCORENE EVAs																	
	H-101		TC-140	TC-130	TC-120	TC-110	UL8710	UL8705s	UL7840	UL7765	UL7760	UL7750	UL7740	UL7720	UL7710	MV02528	UL7560	UL7520	UL7510	MV02514		
	111	MELT POINT, ⁰C	21	21	21	. 21	28	28	33	27.5	28	28	28	28	28	28	18	19.3	19.5	14	WEIGHT PERCENT COMONOMER	
	ω	NEEDLE PENETRATION 1/10 mm at 25°C	135	20	6	2	510	800	50	2.3	6.8	32	55	190	510	2500	2.2	135	550	2500	MELT INDEX, dg/min	
	27	VISCOSITY, cps at 121°C	1	i)	ï	î	370	250	1300	9000	4850	2000	1450	625	335	150	8000	675	300	150	BLEND VISCOSITY, cps at 121°C (4)	TYPICAL P.
	(6) VICAT	(4) 30% EVA 70% 158°F MP PA (5) RING & BA	700	1200	1800	2200	930	600	1260	4200	3500	2000	1600	850	450	150	3000	1000	600	400	TENSILE STRENGTH, psi	TYPICAL PROPERTIES
	VICAT SOFTENING POINT	30% EVA 70% 158°F MP PARAFFIN WAX RING & BALL SOFTENING	1400	1600	2000	2100	835	730	780	900	900	900	900	900	900	60	900	700	650	50	ELONGATION, %	
	G POINT	IN WAX	62(6)	69(6)	72(6)	74(6)	89(5)	87(5)	104(5)	165(5)	150(5)	120(5)	105(5)	85(5)	80(5)	80(5)	190(5)	95(5)	85(5)	90(5)	SOFTENING POINT, ℃	

(1) BROOKFIELD VISCOSITY at 177°C, cps
(a) MOONEY ML 1+4 at 125°C
(b) MOONEY ML 1+8 at 125°C
(10) MOONEY ML 1+8 at 100°C

VISTALON® E-P RUBBER EXXON® BUTYL RUBBER VISTANEX® POLYISOBUTYLENE MML-140 MML-120 MML-100 MML-80 LM-MH LM-MS LM-H 5600 4608 3708 2504 457 065 404 365 269 268 077 165 112000 (7) 58000(7) 31000(7) 45(10) TYPICAL PROPERTIES 54(8) 47(10) 45(10) VISCOSITY 28(8) 57(9) 54(8) 57(9) 48(9) 75(8) 67(8) 26(8) 29(8) 2110000 1660000 1250000 450000 350000 450000 350000 350000 425000 900000 VISCOSITY AVG. (FLORY) 63000 53000 44000 MOLECULAR WEIGHT

(12) MD-MACHINE DIRECTION
(13) TD-TRANSVERSE DIRECTION

S		ECTOR LOCK CO	POLYMERS				EX	TREL	.® FIL	М					CORE!		
	4114-D	4113-D	4111-D			EXTREL 35	EXTREL 34	EXTREL 31	LFLL-16	LFLL-6	LFL-4			4502	4252	4092	
	15	15	18	% STYRENE		COPOLYMER	COPOLYMER	PP	PE	PE	PE	TYPE		3.1	3.1	2.3	MELT FLOW RATE, g/10 min
	24	10	11	MELT FLOW RATE (COND. G)	TW	MER	MER						TY	0.9	0.9	0.9	DENSITY, g/ml
_				(50.12. 4)	TYPICAL F	3.0	4.6	4.2	2.5	1.25	1.25	GAUGE, mil	TYPICAL F				× × × × × × × × × × × × × × × × × × ×
	42	18	0	% DIBLOCK	PROPERTIES	7500	5000	5500	3800	5800	3000	TENSILE, psi MD	PROPERTIES	12,000 MD 7,300 TD	12,800 MD 7,300 TD	'3,000 7,500	TENSILE at BREAK(11) PSI
	0.4	0.3	0.3	% ASH	RTIES	700	0 550	0 600	0 460	0 700	0 350	ELONGATION, % MD	RTIES	D MD	7 N	13,000 MD <sup>(12)</sup> 7,500 TD <sup>(13)</sup>	PSI
			Lesson		-		0					LLONGATION, 70 MD		720 780		600 730	ELONCATION & PREAK
	0.35	0.35	0.35	% VOLATILES		65000	ť	105000	29000	36000	30000	SECANT MODULUS, psi MD		0 MD	O MD	O MD	ELONGATION at BREAK, %

# Specialty Polymers for Adhesives & Sealants

# Adhesives & Sealants Industry Sector

Exxon Chemical Company 13501 Katy Freeway Houston, TX 77079-1398 (713) 870-6039

## Sales Offices

#### Akron

Suite 100 325 Springside Drive Akron, OH 44333-2435 (216) 668-8700

#### Atlanta

Suite 1025 2100 RiverEdge Parkway Atlanta, GA 30328-4654 (404) 955-2300

### Chicago Area

750 West Lake Cook Road, Suite 400 Buffalo Grove, IL 60089-2069 (708) 459-5515

#### Houston

13501 Katy Fwy. Houston, TX 77079-1398 (713) 870-6039

## New York Area

P.O. Box 101 (180 Park AV Florham Park, NJ 07932 (201) 765-3681 (201) 765-3625

#### St. Paul Area

Parkwood Place – Suite 7650 Currell Blvd. Woodbury, MN 55125 (612) 739-9112

THIS INFORMATION RELATES ONLY TO THE SPECIFIC MATERIAL DESIGNATED AND MAY NOT BE VALID FOR SUCH MATERIAL USED IN COMBINATION WITH ANY OTHER MATERIALS OR IN ANY PROCESS. SUCH INFORMATION IS, TO THE BEST OF OUR KNOWLEDGE AND BELIEF, ACCURATE AND RELIABLE AS OF THE DATE COMPILED. HOWEVER, NO REPRESENTATION, WARRANTY OR GUARANTEE IS MADE AS TO ITS

ACCURACY, RELIABILITY OR COMPLETENESS. IT IS RESPONSIBILITY TO SATISFY HIMSELF AS TO THE SUIT COMPLETENESS OF SUCH INFORMATION FOR HIS OWN USE. WE DO NOT ACCEPT LIABILITY FOR ANY LOSS OR D MAY OCCUR FROM THE USE OF THIS INFORMATION, NORE ANY WARRANTY AGAINST PATENT INFRINGEMENT.

P.O. BOX 3272, HOUSTON, TEXAS 77253-3272

53-3272 • EXXON CHEMICAL COMPANY is a division of EXXON CORPORATION



# **EXXON CHEMICAL COMPANY**

P. O. Box 3272, Houston, TX 77253-3272



EXXON CHEMICAL COMPANY
P. O. Box 3272, Houston, TX 77253-3272