

isocyanate terminated prepolymers

# POLURCAST



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high performance polymers technology





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technical information

product	Typical Prepolymer Properties			Typical Process Conditions							Typical Physical Properties										
	% NCO	brookfield viscosity @70° C, cp	specific gravity, g/cm <sup>3</sup>	POLURCAST, °C/°F	MBOCA, °C/°F	Mold, °C/°F	% Theory (gMBOCA)	pot life, min	cure time, min @ °C/°F	post cure, h @ °C/°F	HARDNESS, Shore	Tensile Strength, MPa	Elongation at break, %	100% Modulus, MPa	200% Modulus, MPa	300% Modulus, MPa	Taber TEST (H18) 1000 cycles, mg	Taber TEST (H22) 2000 cycles, mg	Comp. set, % (70°C-22h)	Bashore Rebound, %	Specific gravity, g/cm <sup>3</sup>
<b>POLURCAST POLYESTER - TOI</b>																					
PET 80A - 01	2,7 - 3,1	2400 - 3000	1,18	90/194	115/239	100/212	95% (8,76 g)	15	32 @ 100/212	16 @ 100/212	78 - 82	38	860	3,6	4,1	5,7	10,2	4,5	39	38	1,26
PET 85A - 01	3,3 - 3,7	2400 - 3000	1,19	90/194	115/239	100/212	95% (10,57 g)	10	35 @ 100/212	16 @ 100/212	83 - 87	39,9	535	5,3	8,6	13,9	3,2	2,8	36	38	1,25
PET 88A - 01	3,7 - 4,1	1750 - 2050	1,19	90/194	115/239	100/212	95% (11,78 g)	10	35 @ 100/212	16 @ 100/212	86 - 90	45,3	475	7,3	12,6	20,7	4,8	3,2	35,5	38	1,26
PET 90A - 01	3,7 - 4,1	1800 - 2100	1,19	90/194	115/239	100/212	95% (11,78 g)	9	33 @ 100/212	16 @ 100/212	88 - 92	45	500	7,2	10	16	4,9	3,2	36	35	1,26
PET 95A - 01	5,2 - 5,6	1500 - 1700	1,19	90/194	115/239	100/212	95% (16,30 g)	7	35 @ 100/212	16 @ 100/212	93 - 97	48	460	12,1	14,6	20,8	3,8	2,6	32	28	1,28

@ 90°C / 194°F

<b>POLURCAST POLYETHER - TOI</b>																					
PE 80A - 01	2,7 - 3,1	700 - 900	1,03	90/194	115/239	100/212	95% (8,76 g)	17	50 @ 100/212	16 @ 100/212	80 - 84	23	500	5,1	6,6	8,7	3,8	2,5	36	50	1,05
PE 90A - 01	4,3 - 4,7	250 - 450	1,03	90/194	115/239	100/212	95% (13,60 g)	12	35 @ 100/212	16 @ 100/212	90 - 93	33,6	425	8,5	12,6	19,8	2	2	35	53	1,01
PE 95A - 01	5,8 - 6,2	250 - 450	1,07	80/194	115/239	100/212	95% (18,13 g)	7,5	25 @ 100/212	16 @ 100/212	95 - 97	38	315	14,3	22,6	36	4,5	8	38	48	1,13
PE 75D - 01	9,0 - 9,8	300 - 500	1,03	70/194	115/239	100/212	95% (28,27 g)	3,5	16 @ 100/212	16 @ 100/212	75	51,2	220	44,8	50,4	-	-	2,5	-	55	1,20

@ 70°C / 158°F

### Calculation for the Amount of curative

To calculate the desired of any curative for any POLURCAST, the following formula may be used:

$$\frac{(\%NCO) \times (\text{eq. wt. curative}) \times (\% \text{ theory})}{4201} = \text{Amount of curative per 100 parts of POLURCAST}$$

example:

POLURCAST PE 95A - 01 NCO = 6%  
 Curative = MBOCA eq.wt. = 133,5  
 % theory = 95%

$$\frac{(6) \times (133,5) \times (95)}{4201} = 18,11 \text{ parts of MBOCA per 100 parts of POLURCAST}$$

### Equivalent weights of some typical curatives

1,3 Propanediol	38
1,4 Butanediol	45
1,6 Hexanediol	59
DEG	53
DETDA	89
DMTTDA	107
HQEE	99
MBOCA	133,5
M-CDEA	188,6
PDEA	90,6
TIPA	63,7
TMP	44,7

### Free Monomer Products - No Label

POLURCAST are isocyanate terminated prepolymers with a percentage of isocyanic free monomer lower than 0.1%.

This allows to remove any kind of dangerous symbol on the label, otherwise obligatory according the strict European rules.