

LNPTM LUBRICOMPTM COMPOUND CG002XXN

DESCRIPTION

LNP LUBRICOMP CG002XXN compound is based on Polystyrene (PS) resin containing graphite. Added features of this grade include: Wear Resistant.

GENERAL INFORMATION	
Features	Wear resistant, No PFAS intentionally added
Fillers	Graphite
Polymer Types	Polystyrene (PS)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY	
Building and Construction	Building Component, Water Management	

TYPICAL PROPERTY VALUES

Revision 20231109

MECHANICAL (*) MPa ISO 527 Tensile Strain, break, 5 mm/min 45 MPa ISO 527 Tensile Strain, break, 5 mm/min 2 % ISO 527 Tensile Modulus, 1 mm/min 4100 MPa ISO 178 Flexural Modulus, 2 mm/min 2 MPa ISO 178 Flexural Modulus, 2 mm/min 400 MPa ISO 178 Tensile Strain, brk, Type I, 5 mm/min 2 % ASTM D638 Tensile Modulus, 5 mm/min 4200 MPa ASTM D638 Flexural Stress, brk, 1.3 mm/min, 50 mm span 40 MPa ASTM D638 Flexural Stress, brk, 1.3 mm/min, 50 mm span 40 MPa ASTM D638 Flexural Modulus, 5 mm/min 420 MPa ASTM D638 Flexural Stress, brk, 1.3 mm/min, 50 mm span 40 MPa ASTM D638 Flexural Modulus, 5 mm/min 400 MPa ASTM D638 Leguard Stress, brk, 1.3 mm/min, 50 mm span 40 MPa ASTM D638 Leguard Stress, brk, 1.3 mm/min, 50 mm span 18 MJm² ISO 180/14 ISO 180/14 </th <th>PROPERTIES</th> <th>TYPICAL VALUES</th> <th>UNITS</th> <th>TEST METHODS</th>	PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Tensile Strain, break, 5 mm/min 2 % ISO 527 Tensile Modulus, 1 mm/min 4100 MPa ISO 527 Flexural Stress, break, 2 mm/min 72 MPa ISO 178 Tensile Bodulus, 2 mm/min 4000 MPa ISO 178 Tensile Stress, brk, Type I, 5 mm/min 47 MPa ASTM D638 Tensile Modulus, 5 mm/min 4200 MPa ASTM D638 Flexural Stress, brk, 13 mm/min, 50 mm span 4200 MPa ASTM D638 Flexural Stress, brk, 13 mm/min, 50 mm span 400 MPa ASTM D790 Flexural Stress, brk, 13 mm/min, 50 mm span 400 MPa ASTM D790 Ibural Inspect, notched 80°10°4 +23°C 2 kl/m² ISO 180/11A Izod Impact, unnotched 80°10°4 +23°C 8 kl/m² ISO 180/11A Izod Impact, unnotched, 23°C 111 J/m ASTM D256 Izod Impact, unnotched, 23°C 11 kl/m² ISO 180/11A Charpy 23°C, V-notch Edgew 80°10°4 sp=62mm 1 kl/m² ISO 179/12A Charpy 23°C, V-notch Edgew 80°10°4 sp=62mm 9 <td>MECHANICAL (1)</td> <td></td> <td></td> <td></td>	MECHANICAL (1)			
Tensile Modulus, 1 mm/min 4100 MPa ISO 527 Flexural Stress, break, 2 mm/min 72 MPa ISO 178 Flexural Modulus, 2 mm/min 4000 MPa ISO 178 Tensile Stress, brk, Type I, 5 mm/min 47 MPa ASTM D638 Tensile Strain, brk, Type I, 5 mm/min 4200 MPa ASTM D638 Tensile Modulus, 5 mm/min, 50 mm span 4200 MPa ASTM D638 Flexural Kress, brk, 1,3 mm/min, 50 mm span 74 MPa ASTM D638 Flexural Modulus, 1,3 mm/min, 50 mm span 74 MPa ASTM D790 Flexural Modulus, 1,3 mm/min, 50 mm span 74 MPa ASTM D790 Flexural Modulus, 1,3 mm/min, 50 mm span 74 MPa ASTM D790 Ibusard Stress, brk, 1,3 mm/min, 50 mm span 74 MPa ASTM D638 Ibusard Stress, brk, 1,3 mm/min, 50 mm span 74 MPa ASTM D638 Ibusard Stress, brk, 1,3 mm/min, 50 mm span 8 MPa ASTM D638 Ibusard Stress, brk, 1,3 mm/min, 50 mm span 13 Mpa Mpa ASTM D618 I	Tensile Stress, break, 5 mm/min	45	MPa	ISO 527
Flexural Stress, break, 2 mm/min 72 MPa ISO 178 Flexural Modulus, 2 mm/min 4000 MPa ISO 178 Tensile Stress, brk, Type I, 5 mm/min 47 MPa ASTM D638 Tensile Strain, brk, Type I, 5 mm/min 2 % ASTM D638 Tensile Modulus, 5 mm/min 4200 MPa ASTM D638 Flexural Stress, brk, 1.3 mm/min, 50 mm span 74 MPa ASTM D790 Impact WPa ASTM D790 ASTM D790 Impact WI/m2 ASTM D790 ASTM D790 Impact WI/m2 ASTM D790 ASTM D790 Impact WI/m2 MS D180/11 MS D180/11 Izod Impact, unnotched 80°10°4 + 23°C 2 MI/m2 MS D180/11 Izod Impact, unnotched, 23°C 11 J/m2 ASTM D4812 Izod Impact, unnotched, 23°C 11 J/m2 MI/m2 MS D191/m2 Izod Joneth Edgew 80°10°4 sp=62mm 9 M/m2 Myma MS D191/m2 Charpy 23°C, Unnotch Edgew 80°10°4 sp=62mm 99 °C SO 306	Tensile Strain, break, 5 mm/min	2	%	ISO 527
Flexural Modulus, 2 mm/min 4000 MPa ISO 178 Tensile Stress, brk, Type I, 5 mm/min 47 MPa ASTM DG38 Tensile Strain, brk, Type I, 5 mm/min 2 % ASTM DG38 Tensile Modulus, 5 mm/min 4200 MPa ASTM DG38 Flexural Stress, brk, 1.3 mm/min, 50 mm span 4000 MPa ASTM D790 Impact ¹¹ Vical Impact, notched 80°10°4 +23°C 2 MJm² ISO 180/1A Izod Impact, unnotched 80°10°4 +23°C 2 MJm² ISO 180/1A Izod Impact, unnotched 80°10°4 +23°C 8 MJm² ASTM D256 Izod Impact, unnotched, 23°C 11 Jm ASTM D256 Izod Impact, unnotched, 23°C 11 Jm² ASTM D4812 Charpy 23°C, Vnotch Edgew 80°10°4 sp=62mm 9 NJm² ISO 179/1eA Charpy 23°C, Unnotch Edgew 80°10°4 sp=62mm 9 °C ISO 306 Vicat Softening Temp, Rate B/50 99 °C ISO 306 Vicat Softening Temp, Rate B/120 95 °C ISO 75/Af Wicat Softening Temp, Rate B/50 <th< td=""><td>Tensile Modulus, 1 mm/min</td><td>4100</td><td>MPa</td><td>ISO 527</td></th<>	Tensile Modulus, 1 mm/min	4100	MPa	ISO 527
Tensile Stress, brk, Type I, 5 mm/min 47 MPa ASTM D638 Tensile Strain, brk, Type I, 5 mm/min 2 % ASTM D638 Tensile Modulus, 5 mm/min 4200 MPa ASTM D638 Flexural Stress, brk, 1.3 mm/min, 50 mm span 74 MPa ASTM D790 IMPACT (¹) WPa ASTM D790 IMPACT (¹) WITCH MODULUS, 1.3 mm/min, 50 mm span 4000 MPa ASTM D790 IMPACT (¹) WITCH MPACT (¹) ISO 180/1A Izod Impact, notched 80°10°4 + 23°C 2 & I/I/m² ASTM D56 ISO 180/1U Izod Impact, unnotched, 23°C 13 J/m² ASTM D4812 ASTM D4812 Charpy 23°C, V-notch Edgew 80°10°4 sp=62mm 1 I/I/m² I/I/m² ASTM D4812 Charpy 23°C, Unnotch Edgew 80°10°4 sp=62mm 9 °C ISO 306 Vicat Softening Temp, Rate B/50 99 °C ISO 306 Vicat Softening Temp, Rate B/120 85 °C ISO 75/Id Vicat Softening	Flexural Stress, break, 2 mm/min	72	MPa	ISO 178
Tensile Strain, brk, Type I, 5 mm/min 2 % ASTM D638 Tensile Modulus, 5 mm/min 4200 MPa ASTM D638 Flexural Stress, brk, 1.3 mm/min, 50 mm span 74 MPa ASTM D790 Ibexural Modulus, 1.3 mm/min, 50 mm span 4000 MPa ASTM D790 ImpACT (1) Vigoria Modulus, 1.3 mm/min, 50 mm span 2 kl/m² ISO 180/1A Izod Impact, notched 80*10*4 + 23°C 2 kl/m² ISO 180/1A Izod Impact, unnotched, 23°C 13 J/m ASTM D256 Izod Impact, unnotched, 23°C 111 J/m ASTM D4812 Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm 1 kl/m² ISO 179/1eA Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm 9 °C ISO 306 THERMAL (1) Vicat Softening Temp, Rate B/50 99 °C ISO 306 Vicat Softening Temp, Rate B/120 95 °C ISO 75/lsf HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm 85 °C SIN D52/lsf Vicat Softening Temp, Rate B/50 99 °C ASTM D1525	Flexural Modulus, 2 mm/min	4000	MPa	ISO 178
Tensile Modulus, 5 mm/min 4200 MPa ASTM D638 Flexural Stress, brk, 1.3 mm/min, 50 mm span 74 MPa ASTM D790 Iexural Modulus, 1.3 mm/min, 50 mm span 4000 MPa ASTM D790 IMPACT (1) V V V Izod Impact, notched 80°10°4 +23°C 2 kJ/m² ISO 180/1A Izod Impact, unnotched, 23°C 13 J/m ASTM D256 Izod Impact, unnotched, 23°C 111 J/m ASTM D4812 Charpy 23°C, V-notch Edgew 80°10°4 sp=62mm 1 kJ/m² ISO 179/1eA Charpy 23°C, Unnotch Edgew 80°10°4 sp=62mm 9 °C ISO 306 THERMAL (1) Vicat Softening Temp, Rate B/50 99 °C ISO 306 Vicat Softening Temp, Rate B/120 100 °C ISO 75/Bf HDT/Bf, 0.45 MPa Flatw 80°10°4 sp=64mm 85 °C ISO 75/Bf HDT/Bf, 1.8 MPa Flatw 80°10°4 sp=64mm 85 °C ASTM D1525 HDT, 0.45 MPa, 3.2 mm, unannealed 99 °C ASTM D1525	Tensile Stress, brk, Type I, 5 mm/min	47	MPa	ASTM D638
Flexural Stress, br k, 1.3 mm/min, 50 mm span 74 MPa ASTM D790 Flexural Modulus, 1.3 mm/min, 50 mm span 4000 MPa ASTM D790 IMPACT ⁽¹⁾ VIX	Tensile Strain, brk, Type I, 5 mm/min	2	%	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span 4000 MPa ASTM D790 IMPACT (¹) IMPACT (¹) <th< td=""><td>Tensile Modulus, 5 mm/min</td><td>4200</td><td>MPa</td><td>ASTM D638</td></th<>	Tensile Modulus, 5 mm/min	4200	MPa	ASTM D638
IMPACT (¹) Izod Impact, notched 80°10°4 +23°C 2 kJ/m² ISO 180/1A Izod Impact, unnotched 80°10°4 +23°C 8 kJ/m² ISO 180/1U Izod Impact, notched, 23°C 13 J/m ASTM D256 Izod Impact, unnotched, 23°C 111 kJ/m² ASTM D4812 Charpy 23°C, V-notch Edgew 80°10°4 sp=62mm 1 kJ/m² ISO 179/1eA Charpy 23°C, Unnotch Edgew 80°10°4 sp=62mm 9 kJ/m² ISO 179/1eU THERMAL (¹) Vicat Softening Temp, Rate B/50 99 °C ISO 306 Vicat Softening Temp, Rate B/120 100 °C ISO 75/Bf HDT/Bf, 0.45 MPa Flatw 80°10°4 sp=64mm 85 °C ISO 75/Bf HDT/Bf, 1.8 MPa Flatw 80°10°4 sp=64mm 85 °C ISO 75/Af Vicat Softening Temp, Rate B/50 99 °C ASTM D1525 HDT, 0.45 MPa, 3.2 mm, unannealed 95 °C ASTM D648	Flexural Stress, brk, 1.3 mm/min, 50 mm span	74	MPa	ASTM D790
Izod Impact, notched 80*10*4 +23°C 2 kl/m² ISO 180/1A Izod Impact, unnotched 80*10*4 +23°C 8 kl/m² ISO 180/1U Izod Impact, notched, 23°C 13 J/m ASTM D256 Izod Impact, unnotched, 23°C 111 J/m ASTM D4812 Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm 1 kl/m² ISO 179/1eA Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm 9 kl/m² ISO 179/1eU THERMAL (¹) Vicat Softening Temp, Rate B/50 99 °C ISO 306 Wicat Softening Temp, Rate B/120 100 °C ISO 75/Bf HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm 95 °C ISO 75/Bf HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm 85 °C ISO 75/Af Vicat Softening Temp, Rate B/50 99 °C ASTM D1525 HDT, 0.45 MPa, 3.2 mm, unannealed 95 °C ASTM D648	Flexural Modulus, 1.3 mm/min, 50 mm span	4000	MPa	ASTM D790
Izod Impact, unnotched 80°10°4 +23°C 8 kJ/m² ISO 180/1U Izod Impact, notched, 23°C 13 J/m ASTM D256 Izod Impact, unnotched, 23°C 111 J/m ASTM D4812 Charpy 23°C, V-notch Edgew 80°10°4 sp=62mm 1 kJ/m² ISO 179/1eA Charpy 23°C, Unnotch Edgew 80°10°4 sp=62mm 9 kJ/m² ISO 179/1eU THERMAL (¹) Vicat Softening Temp, Rate B/50 °C ISO 306 Vicat Softening Temp, Rate B/120 100 °C ISO 306 HDT/Bf, 0.45 MPa Flatw 80°10°4 sp=64mm 95 °C ISO 75/Bf HDT/Af, 1.8 MPa Flatw 80°10°4 sp=64mm 85 °C ISO 75/Af Vicat Softening Temp, Rate B/50 99 °C ASTM D1525 Vicat Softening Temp, Rate B/50 99 °C ASTM D1525 Wicat Softening Temp, Rate B/50 99 °C ASTM D1525	IMPACT (1)			
Izod Impact, notched, 23°C 13 J/m ASTM D256 Izod Impact, unnotched, 23°C 111 J/m ASTM D4812 Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm 1 kJ/m² ISO 179/1eA Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm 9 kJ/m² ISO 179/1eU Vicat Softening Temp, Rate B/50 99 °C ISO 306 Vicat Softening Temp, Rate B/120 100 °C ISO 306 HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm 95 °C ISO 75/Bf HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm 85 °C ASTM D1525 Vicat Softening Temp, Rate B/50 99 °C ASTM D1525 Wicat Softening Temp, Rate B/50 99 °C ASTM D1525	Izod Impact, notched 80*10*4 +23°C	2	kJ/m²	ISO 180/1A
Izod Impact, unnotched, 23°C 111 J/m ASTM D4812 Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm 1 kJ/m² ISO 179/1eA Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm 9 kJ/m² ISO 179/1eU THERMAL (1) Vicat Softening Temp, Rate B/50 99 °C ISO 306 Vicat Softening Temp, Rate B/120 100 °C ISO 306 HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm 95 °C ISO 75/Bf HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm 85 °C ISO 75/Af Vicat Softening Temp, Rate B/50 99 °C ASTM D1525 HDT, 0.45 MPa, 3.2 mm, unannealed 95 °C ASTM D648	Izod Impact, unnotched 80*10*4 +23°C	8	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm 1 kJ/m² ISO 179/1eA Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm 9 kJ/m² ISO 179/1eU THERMAL (¹) Vicat Softening Temp, Rate B/50 99 °C ISO 306 Vicat Softening Temp, Rate B/120 100 °C ISO 306 HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm 95 °C ISO 75/Bf HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm 85 °C ISO 75/Af Vicat Softening Temp, Rate B/50 99 °C ASTM D1525 HDT, 0.45 MPa, 3.2 mm, unannealed 95 °C ASTM D648	Izod Impact, notched, 23°C	13	J/m	ASTM D256
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm 9 kJ/m² ISO 179/1eU THERMAL ⁽¹⁾ Vicat Softening Temp, Rate B/50 99 °C ISO 306 Vicat Softening Temp, Rate B/120 100 °C ISO 306 HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm 95 °C ISO 75/Bf HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm 85 °C ISO 75/Af Vicat Softening Temp, Rate B/50 99 °C ASTM D1525 HDT, 0.45 MPa, 3.2 mm, unannealed 95 °C ASTM D648	Izod Impact, unnotched, 23°C	111	J/m	ASTM D4812
THERMAL (1) Vicat Softening Temp, Rate B/50 99 °C ISO 306 Vicat Softening Temp, Rate B/120 100 °C ISO 306 HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm 95 °C ISO 75/Bf HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm 85 °C ISO 75/Af Vicat Softening Temp, Rate B/50 99 °C ASTM D1525 HDT, 0.45 MPa, 3.2 mm, unannealed 95 °C ASTM D648	Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	1	kJ/m²	ISO 179/1eA
Vicat Softening Temp, Rate B/50 99 °C ISO 306 Vicat Softening Temp, Rate B/120 100 °C ISO 306 HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm 95 °C ISO 75/Bf HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm 85 °C ISO 75/Af Vicat Softening Temp, Rate B/50 99 °C ASTM D1525 HDT, 0.45 MPa, 3.2 mm, unannealed 95 °C ASTM D648	Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	9	kJ/m²	ISO 179/1eU
Vicat Softening Temp, Rate B/120 100 °C ISO 306 HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm 95 °C ISO 75/Bf HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm 85 °C ISO 75/Af Vicat Softening Temp, Rate B/50 99 °C ASTM D1525 HDT, 0.45 MPa, 3.2 mm, unannealed 95 °C ASTM D648	THERMAL (1)			
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm 95 85 C ISO 75/Bf HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm °C ISO 75/Af Vicat Softening Temp, Rate B/50 99 °C ASTM D1525 HDT, 0.45 MPa, 3.2 mm, unannealed °C ASTM D648	Vicat Softening Temp, Rate B/50	99	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm 85 °C ISO 75/Af Vicat Softening Temp, Rate B/50 99 °C ASTM D1525 HDT, 0.45 MPa, 3.2 mm, unannealed 95 °C ASTM D648	Vicat Softening Temp, Rate B/120	100	°C	ISO 306
Vicat Softening Temp, Rate B/50 99 °C ASTM D1525 HDT, 0.45 MPa, 3.2 mm, unannealed °C ASTM D648	HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	95	°C	ISO 75/Bf
HDT, 0.45 MPa, 3.2 mm, unannealed 95 °C ASTM D648	HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	85	°C	ISO 75/Af
	Vicat Softening Temp, Rate B/50	99	°C	ASTM D1525
HDT, 1.82 MPa, 3.2mm, unannealed 85 °C ASTM D648	HDT, 0.45 MPa, 3.2 mm, unannealed	95	°C	ASTM D648
	HDT, 1.82 MPa, 3.2mm, unannealed	85	°C	ASTM D648



PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, 23°C to 60°C, flow	6.76E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, xflow	7.80E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, flow	6.76E-05	1/°C	ASTM E831
CTE, 23°C to 60°C, xflow	7.80E-05	1/°C	ASTM E831
PHYSICAL (1)			
Moisture Absorption (23°C / 50% RH)	0.03 – 0.05	%	ISO 62
Water Absorption, (23°C/saturated)	0.03 – 0.05	%	ISO 62-1
Moisture Absorption, (23°C/50% RH/24 hrs)	0.04	%	ASTM D570
Water Absorption, (23°C/24hrs)	0.05	%	ASTM D570
Mold Shrinkage, flow ⁽²⁾	0.4 - 0.6	%	SABIC method
Mold Shrinkage, xflow ⁽²⁾	0.4 – 0.6	%	SABIC method
Melt Volume Rate, MVR at 230°C/5.0 kg	21	cm³/10 min	ISO 1133
Melt Flow Rate, 230°C/5 kgf	20	g/10 min	ASTM D1238
Density	1.10	g/cm³	ISO 1183
Specific Gravity	1.10	-	ASTM D792
INJECTION MOLDING (3)			
Drying Temperature	80	°C	
Drying Time	4 – 6	Hrs	
Drying Time (Cumulative)	48	Hrs	
Maximum Moisture Content	0.02	%	
Hopper Temperature	40 - 60	°C	
Melt Temperature	240 – 270	°C	
Rear - Zone 1 Temperature	220 – 230	°C	
Middle - Zone 2 Temperature	230 – 250	°C	
Front - Zone 3 Temperature	240 – 270	°C	
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Nozzle Temperature	235 – 265	°C	
Nozzle Temperature Mold Temperature	235 – 265 40 – 60	°C	

⁽¹⁾ The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

DISCLAIMER

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⁽²⁾ Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

⁽³⁾ Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.