

Overmolding product selection guide

Duragrip and Alcryn thermoplastic elastomers



Product Selection Guide

The *DuraGrip* and *Alcryn* thermoplastic elastomer (TPE) product families offered by the LYB Advanced Polymers Solutions (APS) business provide targeted properties for overmolding applications.

- Pleasant haptics including resilient, soft, warm feel and satin texture.
- Aesthetically pleasing colorability.
- High friction for a secure grip under wet or dry conditions.
- Resistance to scuffs, scrapes, scratches, denting and household cleaning solutions.
- Alternative grades achieving chemical bonding to a wide variety of rigid substrates.

DuraGrip Products

The *DuraGrip* line of injection-moldable grades range from 30 to 85 Shore A hardness and are suitable for applications over a broad temperature range (-40°C to +70°C).

		Tensile Strength		Tear Strength	
Product	Hardness	Yield (73F / 23C) ASTM D412	(75 F / 24C) ASTM D624	Color	Applications
DuraGrip 6000 Series					
6030BK	30A	680 psi	108 lbf/in	Black	Chemical bonding to Polypropylene and Polyethylene
6030NC	30A	635 psi	81 lbf/in	Natural	
6040NC	40A	752 psi	87 lbf/in	Natural	
6050NC	50A	859 psi	119 lbf/in	Natural	Grips and handles
6070BK	70A	1210 psi	163 lbf/in	Black	Furniture footpads
6070NC	70A	1140 psi	149 lbf/in	Natural	
6080NC	80A	1200 psi	191 lbf/in	Natural	
6090BK	90A	1940 psi	-	Black	Cell phone cases

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		Yield (73F / 23C) ASTM				
Product	Hardness	Tensile Strength	Yield (73F / 23C) ASTM D412	D412 ASTM D624	Color	Applications
DuraGrip 6100 Series						
6140NC	40A	-	105 lbf/in	Natural	Chemical bonding to Nylon, ABS, PC, PC/ABS and PBT	
6150BK	50A	850 psi	146 lbf/in	Black		
6150NC	50A	1170 psi	145 lbf/in	Natural		
6160BK	60A	960 psi	168 lbf/in	Black	Grips and handles	
6160NC	60A	2060 psi	184 lbf/in	Natural		
6170BK	70A	1340 psi	211 lbf/in	Black	Furniture footpads	
6170NC	70A	2150 psi	220 lbf/in	Natural		
6185BK	85A	2130 psi	310 lbf/in	Black	Cell phone cases	





Alcryn Products

Alcryn offers a unique and highly desirable combination of functional rubber properties and environmental resistance. Based on a partially cross-linked, chlorinated olefin alloy, this longstanding proprietary melt-processible rubber (MPR) is formulated to deliver key characteristics that allow applications to withstand harsh conditions without sacrificing the look, feel and overall performance that is expected of rubber. The Alcryn line of injection-moldable grades range from 51 to 88 Shore A hardness and are suitable for applications over a broad temperature range (-87°C to +90°C).

		Tear Strength			
		Yield (73F / 23C)			
Product	Hardness	Yield (73F / 23C) ASTM D412	ASTM D412 ASTM D624	Color	Applications
Alcryn 2000 Series					
2060CL	60A	-	27%/69%	Translucent	Chemical bonding to PVC, PC/ABS
2060NC	59A	-85C to 90C	13%/62%	Neutral	
2070NC	68A	-85C to 90C	16%/64%	Neutral	Grips and handles
2080NC	76A	-76C to 90C	17%/61%	Neutral	
2090NC	88A	-	27%/74%	Neutral	Automotive parts
2060BK	59A	-87C to 90C	13%/62%	Black	Industrial applications
2070BK	68A	-79C to 90C	14%/64%	Black	
2080BK	78A	-86C to 90C	14%/62%	Black	Wire & Cable strain relief boots
2090BK	88A	-	27%/74%	Black	
2095BK	93A	-	-	Black	

Tensile Strength			Tear Strength		Applications
Product	Hardness	Yield (73F / 23C) ASTM D412	Yield (73F / 23C) ASTM D412	Color	
Alcryn 2100 Series					
2160NC	59A	-66C to 90C	18%/86%	Neutral	Chemical bonding to PC, ABS, ASA, PC/ABS, PC/PBT
2165TR	66A	-	34%/83%	Translucent	
2170NC	70A	-60C to 90C	18%/88%	Neutral	
2180NC	81A	-58C to 90C	22%/89%	Neutral	
2150BK	51A	-69C to 90C	21%/89%	Black	Automotive parts; cowl vent grills and pillars
2160BK	60A	-68C to 90C	18%/86%	Black	
2170BK	69A	-59C to 90C	19%/89%	Black	
2180BK	80A	-50C to 90C	22%/88%	Black	

Overmolding Peel Strength

ASTM D429 Method B - pli (kN/M)

Rigid Substrate Classification	DuraGrip 6000 Series	DuraGrip 6100 Series	Alcryn 2000 Series	Alcryn 2100 Series
Polyethylene	29 (5.1)	-	-	
Polypropylene	32 (5.6)	-	-	-
PP, 30% Glass Filled	32 (5.6)	-	-	-
PVC	-	-	8 (1.4)	7 (1.2)
ABS	-	16 (2.8)	-	15 (2.6)
PC	-	17 (3.0)	4 (0.7)	9 (1.6)
PC / ABS	-	16 (2.8)	10 (1.8)	12 (2.1)
ASA	-	23 (4.0)	-	25 (4.4)
ASA	-	29 (5.1)	-	12 (2.1)
ASA	-	34 (6.0)	-	14 (2.5)
PC / PBT	-	25 (4.4)	-	9 (1.6)
PBT	-	20 (3.5)	-	-
PBT	-	24 (4.2)	-	-
PA 6	-	16 (2.8)	-	-
PA 6 / Mineral filled	-	26 (4.6)	-	-
Nylon 6/6	-	19 (3.3)	-	-
Nylon 6/6, 33% Glass	-	20 (3.5)	-	-
Cellulose Acetate Butyrate	-	12 (2.1)	-	-
Copolyester	-	11 (1.9)	-	-

Low to no bond = <5 pli

Moderate bond = 6 to 11 pli

Good bond = > 12 pli

- Mechanical Interlocks for applications can also be considered to enhance bonding strength.
- Alternative grades achieving chemical bonding to a wide variety of rigid substrates.
- Contact LYB for technical bulletins, including mold design and mold surface finish suggestions.

For more information, please visit www.lyb.com.

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