

# 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).

Product	Hardness	Tensile Strength		Color	Applications
		Yield (73F / 23C) ASTM D412	Tear Strength (75 F / 24C) ASTM D624		
<b>DuraGrip 6000 Series</b>					
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

Product	Hardness	Tensile Strength		Color	Applications
		Yield (73F / 23C) ASTM D412	Tear Strength (73F / 23C) ASTM D412 ASTM D624		
<b>DuraGrip 6100 Series</b>					
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	Furniture footpads
6170BK	70A	1340 psi	211 lbf/in	Black	
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).

Product	Hardness	Tensile Strength		Tear Strength		Color	Applications
		Yield (73F / 23C)	ASTM D412	Yield (73F / 23C)	ASTM D624		
<b>Alcryn 2000 Series</b>							
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	Automotive parts
2090NC	88A	-		27%/74%		Neutral	
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	

Product	Hardness	Tensile Strength		Tear Strength		Color	Applications
		Yield (73F / 23C)	ASTM D412	Yield (73F / 23C)	ASTM D412		
<b>Alcryn 2100 Series</b>							
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	Automotive parts; cowl vent grills and pillars
2150BK	51A	-69C to 90C		21%/89%		Black	
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](http://www.lyb.com).

Before using a product sold by a company of the LyondellBasell family of companies ("LyondellBasell"), users should make their own independent determination that the product is suitable for the intended use and can be used safely and legally. LyondellBasell MAKES NO WARRANTY, EXPRESS OR IMPLIED (INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE) OTHER THAN AS AGREED TO BY LyondellBasell IN THE PRODUCT SALE CONTRACT.

LyondellBasell prohibits or restricts the use of its products in certain applications. For further information on restrictions or prohibitions of use, please contact a LyondellBasell representative.

Users should review the applicable Safety Data Sheet before handling the product.

*Duragrip* and *Alcryn* are trademarks owned or used by one of the LyondellBasell family of companies and is registered in the U.S. Patent and Trademark Office.

# 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.

## About us

We are LyondellBasell (LYB) – a leader in the global chemical industry creating solutions for everyday sustainable living. Through advanced technology and focused investments, we are enabling a circular and low carbon economy. Across all we do, we aim to unlock value for our customers, investors and society. As one of the world’s largest producers of polymers and a leader in polyolefin technologies, we develop, manufacture and market high-quality and innovative products for applications ranging from sustainable transportation and food safety to clean water and quality healthcare. For more information, please visit [www.lyb.com](http://www.lyb.com) or follow [@LyondellBasell](https://www.linkedin.com/company/lyondellbasell) on LinkedIn.

Before using a product sold by a company of the LyondellBasell family of companies (“LyondellBasell”), users should make their own independent determination that the product is suitable for the intended use and can be used safely and legally. LyondellBasell MAKES NO WARRANTY, EXPRESS OR IMPLIED (INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE) OTHER THAN AS AGREED TO BY LyondellBasell IN THE PRODUCT SALE CONTRACT.

LyondellBasell prohibits or restricts the use of its products in certain applications. For further information on restrictions or prohibitions of use, please contact a LyondellBasell representative.

Users should review the applicable Safety Data Sheet before handling the product.

*Duragrip* and *Alcryn* are trademarks owned or used by one of the LyondellBasell family of companies and is registered in the U.S. Patent and Trademark Office.

