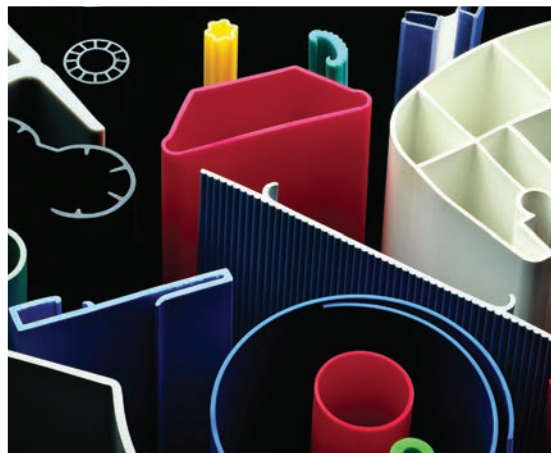
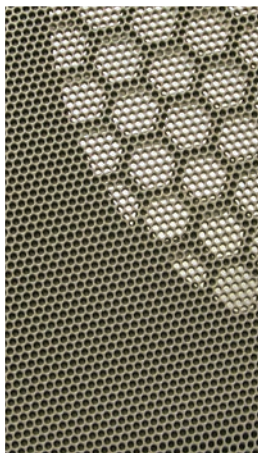
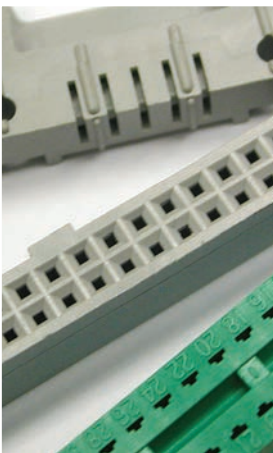


Solutions for Thermoplastics

- *Process Aid Additives:*
 - *Improve resin flow*
 - *Increase through-put in compounding or master-batch operations*
 - *Reduce cycle time in injection molding*
 - *Provide easy release from mold cavities*
 - *Leave molded parts clean and ready for secondary operations*
 - *Promote dispersion of fillers and color*
 - *Enhance scratch resistance surface appearance of molded parts*
- *External Mold Release*
- *Semi-Permanent Mold Release*



Masterbatch/Compounding/ Injection Molding

AXEL's MoldWiz process aid additives are unique chemical formulations focused on the needs of both compounders and molders. AXEL's MoldWiz additives are specially engineered for optimum performance, with formulations for commodity resins and well as engineering grade and advanced polymer resins.

MoldWiz additives are available in 100% active powder, pellet, and liquid form, making these materials

easy to use and highly effective at low addition rate. MoldWiz additives can be used in masterbatch production, but they can also be added directly by metering, gravimetrically feeding, or simply dry blending.

Normal addition levels are 0.1 – 1.0% by weight. For injection molding typical addition level is 0.3-0.5%. For masterbatch production higher addition rates may be used. When additives are used specifically for scratch or mar reduction 1-3% addition may be required.

The products in these tables are just a sampling of the additives that AXEL provides and are listed based on their most common use and performance. AXEL additives are multifunctional. For additional assistance in selecting the best product, or if you don't see what you need, please contact us for assistance.

Table Key:

- = Primary Functionality
- △ = Secondary Functionality
- = Tertiary Functionality

P = Powder

PT = Pellet

L = Liquid

* For dispersion of fillers or pigment in masterbatch production, please also refer to the table for Dispersion Additives.

¹ Raw materials used in these formulations conform to regulations for plastics or films that come in contact with food.

Process Aid Additives

Resin Type	MoldWiz® Product No.	Common Processing Requirements					Form
		Rheology (Flow)	Mold Release	Scratch/Mar Reduction	Reduced Co-efficient of Friction	Dispersion*	
ABS	INT-34DLK ¹	■	△			●	P, PT
	INT-33LCA ¹	△	■		△		P, PT
	INT-EQ6	△	■				L
CAB	INT-34DLK ¹	■	△	●	●	●	P, PT
	INT-33LCA ¹	△	■		●		P, PT
LCP	INT-55PV	■	△				P, PT
	INT-EQ6	△	■				P, PT
PA	INT-38HM ¹	△	■		●		P, PT
	INT-38F	■	●			●	P, PT
	INT-PA33FRK	■	■	●	●	●	L
PBT, PET and blends	INT-36PBT	△	■	●	△	●	P, PT
	INT-40GHT ¹	■	■			■	L
PC (Clear)	INT-619C	■	△	△	△	●	P, PT
	INT-33UDS ¹	△	■	△	△	△	P, PT
PC & PC Blends	INT-619	■	△	■	●		P, PT
	INT-33UDS ¹	△	■				P, PT
	INT-35PHT	△	■	△			P, PT
PC/ABS	INT-35UDH	△	■				P, PT
	INT-35UPC	△	■				P, PT
PE, HDPE, LDPE, LLDPE	INT-33LCA ¹	△	■		△	●	P, PT
	INT-41FPE	■	△			●	PT
	INT-3952R	△	■			●	L
PES	INT-619	■	△	■	●		P, PT
	INT-55PV	■	△				P, PT
ACRYLIC	INT-33UDS ¹	△	■				P, PT
	INT-34DLK ¹	△	■				P, PT

Process Aid Additives

Resin Type	MoldWiz® Product No.	Common Processing Requirements					Form
		Rheology (Flow)	Mold Release	Scratch/Mar Reduction	Reduced Co-efficient of Friction	Dispersion*	
POM	INT-619	■	△	■	●		P, PT
	INT-33UDS ¹	■	△				P, PT
PP	INT-33UDS ¹	△	■				P, PT
	INT-41FPE	■	△			●	PT
	INT-619	■	△				
	INT-701S	■	△	■	●		P, PT
	INT-3952R	△	■			●	L
	INT-937	△	■				L
PPO	INT-619	■	△	■	●		P, PT
	INT-33UDS ¹	△	■				P, PT
PPS	INT-619	■	△				P, PT
	INT-33UDS ¹	△	■				P, PT
PS	INT-33LCA ¹	△	■		△		P, PT
	INT-3952R	△	■			●	L
	INT-937	△	■				L
	INT-EQ6	△	■				L
HIPS, CPS	INT-34DLK ¹	■	■		●	●	P, PT
	INT-33UDS ¹	△	■	●			P, PT
PSO	INT-619	■	△	■	●		P, PT
	INT-33UDS ¹	△	■				P, PT
PVC	INT-66PV	■	■			△	P, PT
	INT-VP250	■	■				L
SAN	INT-34DLK ¹	△	■				P, PT
	INT-33LCA ¹	△	■				P, PT
SBS	INT-34DLK ¹	△	■			△	P, PT
TPE	INT-34DLK ¹	■	■			●	P, PT
	INT-33LCA ¹	△	■		△	●	P, PT
	INT-937	△	■			●	L
TPO	INT-33LCA ¹	△	■	●	△	●	P, PT
	INT-701S	■	△	■	■	△	P, PT
	INT-706S	■	△	■	■	△	L
TPU	INT-34DLK ¹	■	△			△	P, PT
	INT-33LCA ¹	△	■			●	P, PT

Dispersion Aids /Thermoplastics

MoldWiz® Product No.		Form
INT-40GHT ¹	Low viscosity, low color, liquid improves wetting and dispersion . Also provides release when used in masterbatch production.	L
INT-40DHT ¹	Useful for surface treating TiO ² and many other fillers to improve dispersion and or to increase loading in masterbatch production.	P

External Mold Releases

AXEL's mold release coatings for thermoplastics include a vast array of water and solvent borne products in both bulk liquid and

aerosol packaging. These include high performance options for processes including: injection molding; rotational molding; thermoforming; belt lamination and other operations.

External Mold Releases

		Product No.	Application Technique/Temperature	Type of Mold	Features
MoldWiz® Polymeric Release	Solvent-based	F-57/NC AEROSOL	Spray at ambient or higher Mold up to 500°F/260°C	Aluminum, Steel, Plated	Easy to use fluoropolymer release spray for injection molding and other products. Provides a dry film release. Will not contaminate parts or interfere in secondary processes. Provides multiple releases.
		AZN AEROSOL	Spray at ambient or higher Mold up to 500°F/260°C	Aluminum, Steel, Plated	Easy to use spray provides a wet, lubricious release. Especially recommended for TPU, PP, PA and other materials requiring added slip. Non-silicone. Provides multiple releases.
		AZN-O AEROSOL	Spray at ambient or higher Mold up to 500°F/260°C	Aluminum, Steel, Plated	Contains extra anti-oxidants to protect molds. A clean and convenient way to protect molds in storage.
	Water-based	EM-606SFL	Spray at ambient or higher Mold up to 450°F/232°C	Aluminum, Steel, Plated	Good release for EVA and similar foamed thermoplastic sheet materials.
		WB-2700	Spray at ambient or higher Mold up to 400°F/204°C	Aluminum, Steel, Plated	Good choice for belt lamination of thermoplastic sheets.
		WB-4606	Wipe or spray at ambient or higher No baking required Mold up to 450°F/232°C	Aluminum, Steel, Plated	Especially suited to roto-molding LLDPE, and X-linked PE. Effective release without any coining, pock-marking or surface defects.
		WB-4707	Spray, wipe, or dip.	Aluminum, Steel, Plated	For treating pins inserts, threads and other mechanical parts.
		WB4909	Wipe or spray at ambient or higher No baking required Mold up to 450°F/232°C	Aluminum, Steel, Plated	General purpose roto-molding release. Ideal for tank and container production.
	Semi-Permanent Release XTEND®	Solvent-based	19RSS	Wipe or spray on at ambient or higher. Mold up to 450°F/232°C	Aluminum, Steel, Plated
Water-based		W-4007	Wipe or spray on warm molds Apply at 100°F/38°C or up to 150°F/66°C Heat cure after application Mold up to 1000°F/538°C	Aluminum, Steel, Plated	Semi-permanent, long lasting, general purpose release for roto-molding, hot press molding and thermoforming. Good for high temperature resins and processes.

These products reflect only a small portion of what we have to offer. Please contact us for more information. This information is supplied for technically skilled professionals working at their own risk. AXEL believes the information to be accurate, although the Company assumes no liability in the validity of the information for any specific process or application. Moreover, AXEL will assume no liability from any direct and/or consequential damages of any kind that may occur from the use or non-use of AXEL products or information supplied by the Company or its appointed representatives. ISO 9001 Registered. REACH Compliant. MoldWiz®, XTEND®, PasteWiz® and CleanWiz® are registered trademarks of Axel Plastics Research Laboratories Inc. ©2013 Axel Plastics Research Laboratories, Inc. All rights reserved.

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