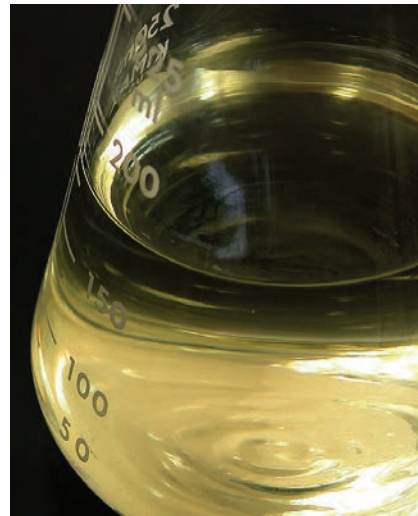
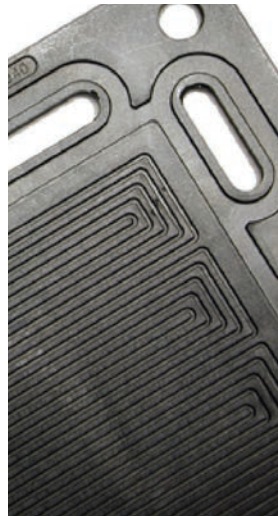
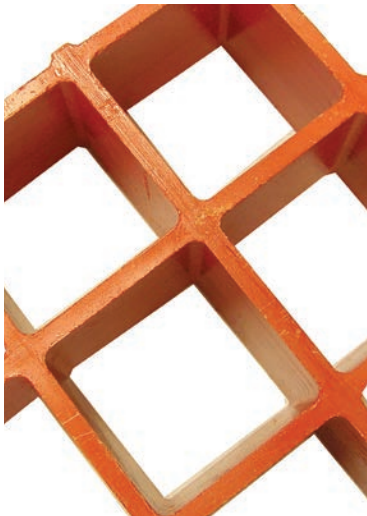
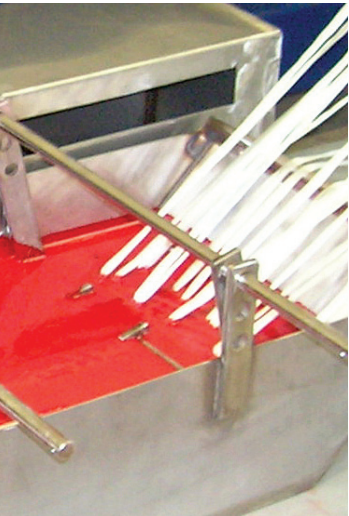


# *Solutions for Composites: Internal Mold Release*

- Excellent Release +
- Specific Formulations Based on Resin & Cure
- Improves Flow
- Enhances Wetting of Reinforcements
- Promotes Dispersion of Filler/Color
- Better Parts with Improved Physicals & Gloss



Internal mold releases are typically used at addition rates of 0.25 – 1% based on resin weight; however, certain processes (like pultrusion), or high filler loadings may necessitate higher addition levels. For best

results, pre-production evaluations should be conducted – please refer to AXEL’s technical document *Testing Internal Mold Releases for Composites*.

AXEL recommends adding internal mold release to the resin and mixing well before adding catalysts or accelerators. In two component resin systems it is best to add the

internal mold release to the less viscous or less reactive component.

## Polyester & Vinyl Ester

Peroxide Type / Group Classification	MoldWiz® Products	Typical Application /Comments
<b>BPO</b> Diacyl Peroxide	INT-54	
	INT-542WT	
	INT-1854	
<b>MEKP</b> Ketone Peroxide	INT-15TBT	For clear or white gel coats
	INT-937	Open molding
	INT-EQ6	
	INT-15TBT	
	INT-DCP-220	Difficult release and/or DCPD resin
INT-DLP22E		
<b>AAP</b>	INT-1838P	
	INT-DLP22E	
<b>2, 4-Pentanedione</b> Ketone Peroxide	INT-389A	
	INT-15TBT	
<b>Perkadox®16 (Akzo)</b> Peroxydicarbonate	INT-PS125	
	INT-PUL24	
<b>TBPB Tertiary Butyl Perbenzoate</b> Peroxyesters	INT-PS125	
	INT-PUL24	
	INT-PUL34	
<b>Perkadox®16 (Akzo) + Triganox®C (Akzo)</b> Two Tier Cures Peroxydicarbonates + Peroxyesters	INT-PS125	Pultrusion NOTE: PLEASE REFER TO PULTRUSION GUIDE FOR MORE INFORMATION
	INT-PUL24	
	INT-PUL34	
<b>Dicumyl Peroxide</b> Dialkyl Peroxides	INT-PUL24	
<b>Cumene hydroperoxide</b> <b>Hydroperoxide</b>	INT-PUL34	Often used with thick sectioned parts or vinyl ester resins
	INT-PUL24	
<b>Lupersol®231 (Atofina)</b> Peroxyketals	INT-626HT	Rapid molding and prolonged shelf life; SMC & BMC

Epoxy

Typical Loading Level of MoldWiz® Internal Mold Release in epoxy resin, is 0.5% - 1.5%, (5-15g/kg resin) based on resin weight, and depending on the type of molding process. Resin formulations with higher filler loading generally require higher loadings of internal release

Cure Type / Group Classification	MoldWiz® Products	Typical Application /Comments
Aliphatic amines Example: DETA	INT-1846N2	Neutralized to prevent acceleration of cure
Aliphatic amines	INT-1850HT	For higher temperature processing >350°F/175°C
Cycloaliphatic amines Example: PACM	INT-1840	For quick curing; filament winding
	INT-1846	
Aromatic amines, MDA & non-MDA based	INT-1857DC	High temperature cures >450°F/230°C
	INT-1888LE	
Acid anhydride Example: phthalic anhydride	INT-1888LE	
	INT-1890M	
Acid anhydride, w/ tertiary amine or imidazole Example: MTHPA	INT-1888LE	Systems with high Tg; pultrusion
	INT-1324B	
	INT-1846N2	High temperature cures >350°F/175°C; pultrusion
Anhydride general purpose	INT-1888LE	
Water dispersible amines or polyamides	INT-EP545(SL)	Good dispersion for epoxy emulsions; suitable for treating surface veils
DICY (imidazole accelerated)	INT-1324	Pre-preg or wet systems
DICYwith other amines	INT-1324B	
	INT-1888LS	

## Phenolics

Resin Type	MoldWiz® Product	Typical Application /Comments
Novolac Powdered, Hexa-cured;	INT-326PWD	Compression molding
Novolac or Resol Liquid	INT-1850HT	Pultrusion
	INT-PUL14	
Resol Alcohol-based	INT-12	Phenolic Laminates
	INT-1312MS	
Resol Aqueous-based	INT-1E-11S Series	Phenolic Laminates

## Polyurethanes

	Product No.	Typical Applications / Comments
<b>MoldWiz®</b>	INT-1230	General purpose release- foam or elastomers and non-aqueous in-mold coatings.
	INT-120IMC	Release additive for in-mold coatings and polyureas.
	INT-EPH19	Release additive for water- borne polyureas.
	INT-1681OG	Release for optical grade cast PU.
	INT-1948MCH	Release for PU Pultrusion.
	INT-1940RTM	Release additive for RTM, Infusion, or other closed molded PU processes.

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