

Injection Molding: Recommended Xaloy® Screw and Barrel Solutions

For more information about recommended designs and materials, click the hot links or contact your Xaloy representative

Resin	Screw performance/design options			Base Material [Note 2]	Hardfacing options		Coating Options	Valve	Barrel Options	
	★★★	★★	★		★★★	★★			★★★	★★
ABS	StrataMelt™	MultiMelt™ (note 7)	EasyMelt™	4140 HT or SM59	X-830	X-183	CP-O	3-piece	X-802	X-102
Acetal	StrataMelt™	MultiMelt™ (note 7)	EasyMelt™	4140 HT or SM59	X-830	X-183	CP-O	APV	X-802	X-102
Acrylic	StrataMelt™	MultiMelt™ (note 7)	EasyMelt™	4140 HT or SM59	X-830	X-183	CP-O	3-piece	X-802	X-102
Cellulosics	StrataMelt™	MultiMelt™ (note 7)	EasyMelt™	4140 HT or SM59	X-830	X-183	CP-O	APV	X-802	X-102
Celcon®	StrataMelt™	MultiMelt™ (note 7)	EasyMelt™	4140 HT or SM59	X-830	X-183	CP-O	APV	X-802	X-102
Delrin®	StrataMelt™	MultiMelt™ (note 7)	EasyMelt™	4140 HT or SM59	X-830	X-183	CP-O	APV	X-802	X-102
FEP (Teflon®)	EasyMelt™			Note 5	None		None	APV	X-306	
HIPS	MultiMelt™ (note 7)	StrataMelt™	EasyMelt™	4140 HT or SM59	X-830	X-183	CP-O	APV	X-802	X-102
Hytrel®	StrataMelt™	MultiMelt™ (note 7)	EasyMelt™	4140 HT or SM59	X-830	X-183	CP-1	APV	X-802	X-102
Lexan® (PC)	StrataMelt™	MultiMelt™ (note 7)	EasyMelt™	See note 6	X-830	X-183	CP-1	Free Flow	X-802	
LCP	StrataMelt™	MultiMelt™ (note 7)	EasyMelt™	4140 HT or SM59	None		None	APV	X-802	X-102
Noryl®	StrataMelt™	MultiMelt™ (note 7)	EasyMelt™	4140 HT or SM59	X-830	X-183	CP-1	APV	X-802	X-102
Nylon (PA), no glass	StrataMelt™	MultiMelt™ (note 7)	EasyMelt™	4140 HT or SM59	X-830	X-183	CP-O	APV	X-802	X-102
Nylon (PA), w/glass	StrataMelt™	EasyMelt™	MultiMelt™ (note 7)	CPM-9V	None	X-183	None	APV	X-802	
Olefins	Fusion™ (note 1)	MultiMelt™ (note 7)	StrataMelt™	4140 HT or SM59	X-830	X-183	CP-O	APV	X-802	X-102
PBT	StrataMelt™	MultiMelt™ (note 7)	EasyMelt™	4140 HT or SM59	X-830	X-183	CP-O	APV	X-802	X-102
PEEK	StrataMelt™	MultiMelt™ (note 7)	EasyMelt™	4140 HT or SM59	X-830	X-183	CP-O	APV	X-802	X-102
PET	MultiMelt™ (note 7)	StrataMelt™		4140 HT or SM59	X-830	X-183	CP-1	APV	X-802	X-102
PETG	MultiMelt™ (note 7)	StrataMelt™		4140 HT or SM59	X-830	X-183	CP-O	APV	X-802	X-102
PC, polycarbonate- see Lexan										
PE										
HDPE	Fusion™ (note 1)	MultiMelt™ (note 7)	StrataMelt™	4140 HT or SM59	X-830	X-183	CP-O	APV	X-802	
LDPE	Fusion™ (note 1)	MultiMelt™ (note 7)	StrataMelt™	4140 HT or SM59	X-830	X-183	CP-O	APV	X-802	X-102
LLDPE	Fusion™ (note 1)	MultiMelt™ (note 7)	StrataMelt™	4140 HT or SM59	X-830	X-183	CP-O	APV	X-802	
MDPE	Fusion™ (note 1)	MultiMelt™ (note 7)	StrataMelt™	4140 HT or SM59	X-830	X-183	CP-O	APV	X-802	X-102
Polyamide (see Nylon)										
Polyesters	StrataMelt™	MultiMelt™ (note 7)	EasyMelt™	4140 HT or SM59	X-830	X-183	CP-O	APV	X-802	X-102
PP	Fusion™ (note 1)	StrataMelt™	EasyMelt™	4140 HT or SM59	X-830	X-183	CP-1	APV	X-802	X-102
PP, mineral-filled	StrataMelt™	MultiMelt™ (note 7)	EasyMelt™	4140 HT or SM59	None		None	APV	X-802	X-102
PS (GPPS)	MultiMelt™ (note 7)	StrataMelt™	EasyMelt™	4140 HT or SM59	X-830	X-183	CP-O	APV	X-802	X-102
PPS	StrataMelt™	EasyMelt™		4140 HT or SM59	X-830	X-183	CP-O	APV	X-802	X-102
PVC (pellet)										
CPVC	StrataMelt™			17-4 PH Stainless	X-183	X-830	None	Smear tip	X-306	
Flexible PVC	StrataMelt™			4140 HT or SM59	X-183	X-830	CP-1	Free Flow	X-802	X102
Rigid PVC	StrataMelt™			Note 4	X-183	X-830	CP-2	Smear tip	X-306	
PUR (Polyurethane)	StrataMelt™			4140 HT or SM59	X-183	X-830	CP-1	APV	X-802	X-102
Rynite®	EasyMelt™			CPM-9V	None		None	APV	X-802	X-102
Surlyn® ionomer	StrataMelt™	MultiMelt™ (note 7)	EasyMelt™	4140 HT or SM59	X-830	X-183	CP-1	APV	X-802	X-102
TPO	StrataMelt™			4140 HT or SM59	X-183	X-830	CP-O	APV	X-802	X-102
Xenoy®	StrataMelt™			4140 HT or SM59	X-183	X-830	CP-1	Free Flow	X-802	X-102

Other materials

Please contact your Xaloy representative for recommendations. See next page for key and notes

Key and Notes, Xaloy® Screw and Barrel Solutions for Injection Molding

KEY

APV = All-purpose non-return valve

Coatings:

CP-O = Chrome plating is optional

CP-1 = Chrome-plated, thickness 0.001" (25 µm)

CP-2 = Chrome-plated, thickness 0.002" (51 µm)

Performance ratings

- ★★★★ Premium performance, our best solution
- ★★★ Excellent balance of performance and cost
- ★ Good performance at economical cost

NOTES:

1. Fusion™ Screws for injection molding must be 22:1 L/D or longer.
2. Any screw of 40 mm (1.575") diameter or smaller is made of CPM-9V.
3. When the X-830 screw flight hardsurfacing is used, then the X-802 barrel liner must be used.
4. Recommended materials for rigid PVC molding screws are AISI 4140 or SM59 microalloy with chrome plating, or 17-4 PH stainless steel, which eliminates the need for chrome plating.
5. Hastalloy® endface and stainless steel feed end.
6. Clear polycarbonate (PC) such as Lexan needs a chrome-plated 4140 HT screw and endcap.
7. Minimum L/D for Multimelt™ screws is 22:1.

