

# Xaloy® Fusion™ II Screw

The Xaloy® Fusion™ II screw delivers enhanced chaotic mixing while retaining the productivity benefits of faster plastication and lower melt temperature provided by the original Xaloy® Fusion™ screw. Like the original Xaloy® Fusion™ screw, the Xaloy® Fusion™ II has two barrier zones. The first melts and meters the material forward to a homogenizing transition zone. This zone is followed by a second barrier zone with an undulating root profile providing intensive, chaotic mixing. The key difference between the Xaloy® Fusion™ II screw and earlier models is that primary flights in the second barrier zone have grooves.

The grooves in the flights allow materials in adjacent melt channels to mix together, thus enhancing the intensive, chaotic mixing action produced by the screw's undulating root profile. This further improves the dispersion of color and additives in the melt and enhances melt homogeneity.

The Xaloy® Fusion™ II delivers the same productivity benefits as the earlier design. In injection molding, extrusion and blow molding, the Xaloy® Fusion™ II can deliver increases in plasticating rates of 15 percent and melt temperature reductions of up to 10°C (50°F) compared with standard mixing screws.

## Which Materials?

The Xaloy® Fusion™ II screw has already proven to deliver benefits in processing:

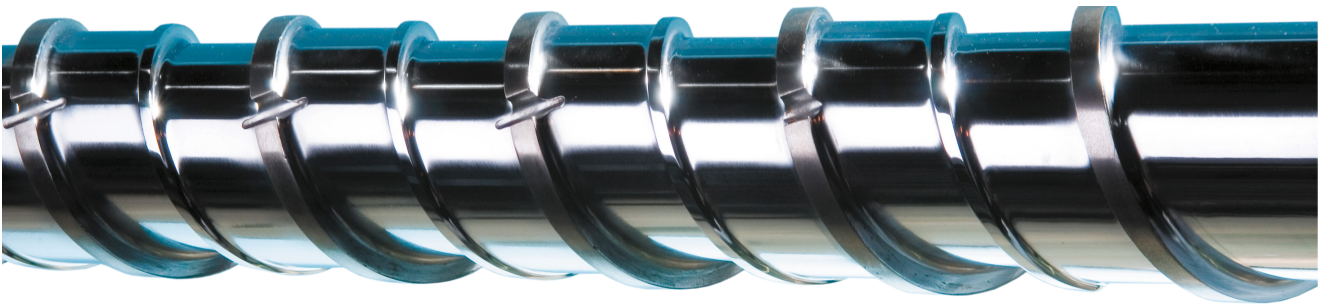
ABS	PP
HDPE	LDPE
LLDPE	MDPE
PET	PLA

## Which Processes?

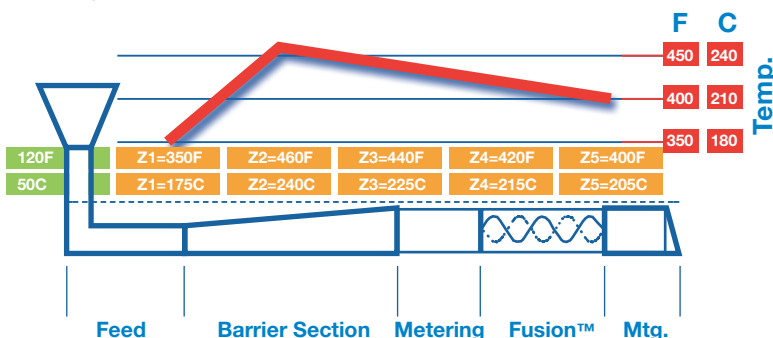
The Xaloy® Fusion™ II screw is available for the following processes:

- Injection Molding
- Blown Film
- Sheet Extrusion
- Blow Molding
- Profile
- Pipe

For other process applications consult us for a screw design recommendation.



## Temperature Profile (for processing a .35MI HDPE)



Note: This profile typically will produce a 210-215°C (410-420°F) melt against a 3500 PSI head pressure.

Xaloy recommends that a "hump" type barrel zone temperature profile be used to optimize the performance of the Xaloy® Fusion™ II screw. Make sure that you request the best temperature profile from your Xaloy representative for your resin and process.

**XALOY**  
Solutions through Innovation.™

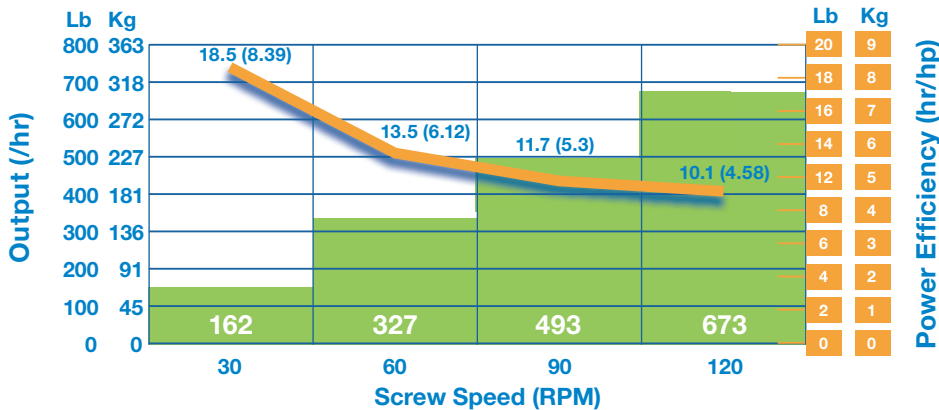
# Xaloy® Fusion™ II Screw

## Power Efficiency Performance Benefits

Our worldwide presence includes sales and service offices located in the United States, Europe, Thailand, Japan, China and India and a global network of agents geographically positioned to serve customers throughout the world.

### Output and Power Efficiency on 3.5" (88.9mm) x 24:1 L/D

(90% LDPE and 10% LLDPE)



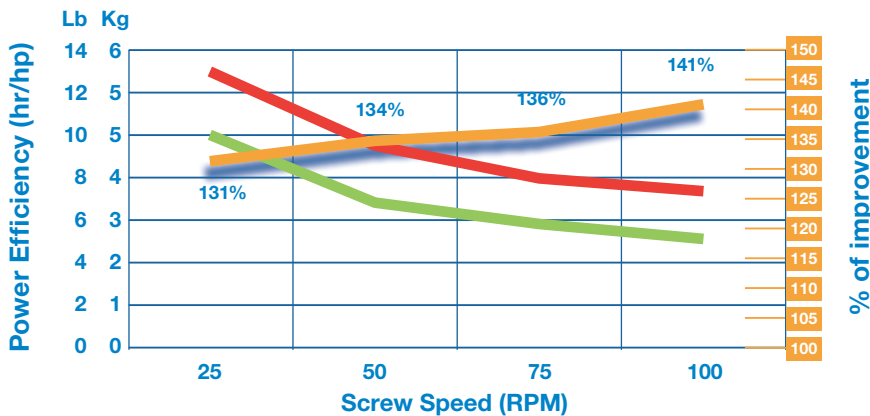
#### RATE

Typically, .5 to 1.0 MI LD/LLDPE blends require 7 to 8 lb/hr/hp to process effectively.

#### LB/HR/HP

The Xaloy® Fusion™ Screw was able to process slightly more than 10 lb/hr/hp due to the efficient use of available HP.

## Power Efficiency Comparison



#### Xaloy® Fusion™ II

The Xaloy® Fusion™ II Screw also features the added benefit of energy cost savings through more efficient use of available horsepower.

#### Barrier w/UCC

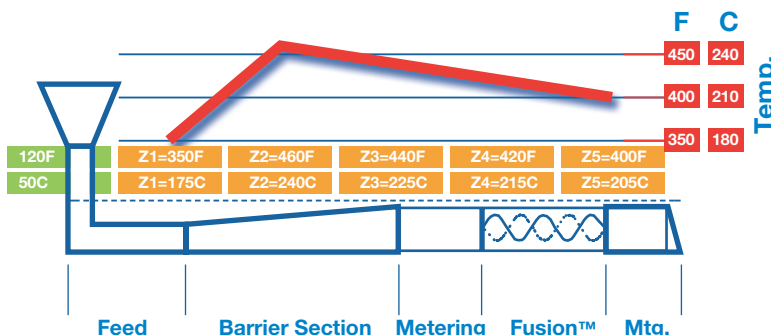
#### Resulting Overall Benefits

- More lbs/hr/hp
- Controllable melt temperatures
- Reduced energy costs

#### % of improvement

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Note: This profile typically will produce a 410-420 (210-215°C) melt against a 3500 PSI head pressure.

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