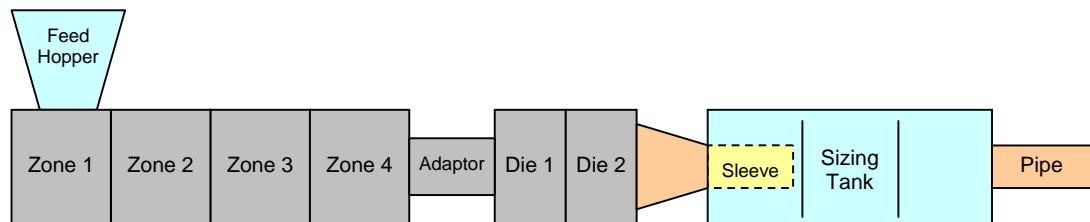


Listed below are general processing recommendations for extruding pipe from Xtel[®] XE Series compounds. Please contact our technical service staff if you have additional questions.



Pipe Extrusion Line Schematic

Extruder Set-Up

- 24:1 to 28:1 L/D
- General Purpose screw with 2.5:1 to 3:1 Compression ratio. Mixing head optional.
- 20/80/20 Screenpack
- Heated Die Clamp

Pipe Die

- Low volume, high compression die head suitable for low melt viscosity materials
- Die bushing ID should be 1.3 to 1.7 times the pipe diameter
- Die annulus 1.6 to 2.0 times the desired pipe wall thickness

Sizing

- **Aluminum** sleeve designed for low vacuum sizing (1.5 mm diameter holes, not slotted)

- Sleeve diameter for 1% to 2% shrinkage
- Multiple sectioned tank with short vacuum section.

Material Drying

- Dry at 275°F to 300°F (135°C to 150°C) for 2 hours prior to processing
- Hopper driers and/or desiccant driers are not required

Temperature Profile for 3:1 Screw

Extruder Zone 1	550°F (288°C)
Extruder Zone 2	570°F (300°C)
Extruder Zone 3	570°F (300°C)
Extruder Zone 4	570°F (300°C)
Adaptor	570°F (300°C)
Die 1	560°F (293°C)
Die 2	560°F (293°C)

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For more information and technical assistance contact:

CHEVRON PHILLIPS
CHEMICAL COMPANY LP
Ryton[®] Business Unit
P. O. BOX 4910
The Woodlands, TX 77387-4910
Phone Toll Free: 1-877-798-6666
Website: www.RytonPPS.com

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The Woodlands, Texas



XE ALLOYS

PIPE EXTRUSION

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Processing Considerations: Xtel® XE Series compounds process better at higher extruder rates where the shear from the screw does more of the melting rather than the heaters. Extruders should be sized to run above 50% capacity for the process to generate sufficient shear heating while minimizing residence time. Bubbles, smoke or gels are indications of the material being too hot for too long in the extruder. Temperatures may be adjusted as appropriate, but dies should not be set below 550°F (288°C). Cold dies and/or breaker plates will result in the material crystallizing during processing and over-pressurizing the line. If melt temperatures need to be lowered, it is preferred to adjust the extruder profile rather than lowering die temperatures. Sustained melt temperatures above 600°F (315°C) for prolonged time periods can lead to thermal degradation of the compound on the screenpack and result in unacceptably high extruder pressures.

Purging Procedure: Equipment used for processing Xtel® XE Series compounds is best purged at processing temperatures using a fractional melt flow HDPE (Marlex® HHM 50100). After purging with HDPE, run the extruder dry, and with the extruder and die still at temperature, break down the die and clean hot. The screw should be pulled and cleaned hot, and the barrel should be cleaned hot as well.

OFF-GAS PRODUCTS PRODUCED DURING PROCESSING CAN BE IRRITANTS TO THE MUCOUS MEMBRANES, THEREFORE ADEQUATE VENTILATION IS RECOMMENDED.

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