



PELLETIZING

EXTRUSION PELLETIZING PILOT FACILITY

OVERVIEW

Consider the Possibilities.

Let our Extrusion Pelletizing Pilot Facility assist you to:

Develop

- New products before you go to the expense of trials on your production equipment

Explore

- New processes and markets

Consider

- New equipment designs that will drive flexibility and efficiency into your operations

Gain

- Early entry into a market by scaling up with our equipment

Reduce

- Your costs as you look for lower cost run parameters

Create

- Market entry samples

FEATURES

These are a few of the many products capable of being tested in our Extrusion Pelletizing Laboratory:

- Low, Medium, High and Linear Low Density Polyethylenes
- Co-Polymers (EVA, EMA, EMAA, EAA, etc.)
- Impact and Crystal Polystyrene
- Polypropylene
- Thermoplastic Elastomers (SBR, SIS, SBS, etc.)
- EPDM
- Polyamide (Nylon)
- ABS
- SAN
- Polyester
- Acetal
- Wax Blends
- Filled Polymers
- Cross Linkable Polymers
- Hot Melt Adhesives
- Polybutylene
- Polyurethane
- Polycarbonates
- Rubber
- Food
- Others

EXTRUSION PELLETIZING PILOT FACILITY

Our Extrusion Pelletizing Laboratory offers the following equipment for your testing needs:

- Extruder "A": 3.5" (89 mm) Diameter, 30:1 L/D with 100 HP (75 KW) DC Drive
- Extruder "B": 4.5" (114 mm) Diameter, 13:1 L/D with 30 (22 KW) HP AC Drive
- Extruder "C": 2.0" (51 mm) Diameter, 17:1 L/D with 25 (19 KW) HP Hydraulic Drive
- Sytron: Vibratory Tray Feeder
- Gravimetric Hopper Blending System: Three compartment
- Conair Automatic Hopper Loaders: Three Dustbeater Hopper Loaders are available. Maximum rate is 500 pounds/hr
- Resin Blending: Patterson Kelley Twin Shell Batch type
- Drying Capabilities: 2 Conair units - 800lbs. and 4000lbs. capacity (363 kg and 1814 kg)
- Feed Screws: A variety of high performance feed screws. These include single and two-stage single flighted and dual flighted screws as well as barrier type screws. Mixing sections include, but are not limited to, Maddox, twisted spiral, pins or blister ring. Many screws have removable tips for interchanging or removing mixing sections.
- Valved Adaptor: For extruder head
- Gear Pump
- Feed Pipe: Connections from three extruders or a dedicated pipe from extruder A directly to the pelletizer
- Underwater / Water or Air Ring Pelletizer: Black Clawson Model 0.5
- Spin Dryer / Water System: 50 gpm recirculation loop capable of holding less than 3°F (-16°C) variation across the pelletizer under full load conditions at temperatures between 55°F to 180°F. Trane microprocessor controlled 60 ton chiller. In-line 15KW temperature controlled heater for fast start-ups on above room temperature processes.
- Hot Oil Heating System: 100KW for pelletizer body and die plate.
- Process Control System: Offers line control. Displays include temperature control and line conditions.

These are a few of the many set-ups capable of being tested in our Extrusion Pelletizing Laboratory:

- Extruder Screw Design Trial
- Underwater, Water or Air Ring Pelletizing Methods
- Extruder/Gear Pump or Extruder/Cross Head Extrusion
- Upward or Downward Underwater Pelletizing

TESTING EQUIPMENT

Equipment for comparative measurement includes:

- Offline Melt Indexer
- Nikon research polarizing microscope Model Optiphot-Pol with 4/10/20/60x objectives
- Nikon PFX photomicrographic System
- Microtome: American Optical Co. model # 880
- Stereoscopic Zoom type polarizing microscope with integral scale in a power range from 7 to 120 (Also includes a mounting technique for viewing cross section film samples)
- For recording, the scope is equipped with a Polaroid camera attachment for black & white or color film
- Manual Sieves

NOTE: Additional equipment supplied or rented by you is welcome.

LINE SPECIFICATIONS

Extrusion Throughput	To 600 lbs / hr maximum
Lab Die Plates:	Hole Sizes (Up to 18 holes each)
Normal Pellets	0.062" (1.57 mm)
	0.078" (1.98 mm)
	0.093" (2.36 mm)
	0.100" (2.54 mm)
	0.110" (2.78 mm)
	0.125" (3.17 mm)
Lab Die Plates:	0.014" (0.33 mm) and up
Micro Pellets	
Lab Die Plates:	0.196" (5.00 mm)
Macro Pellets	0.250" (6.35 mm)
	0.296" (7.50 mm)
	0.312" (8.00 mm)
	0.375" (9.50 mm)
	All with various L/D's