

ACRYLIC (PMMA) EXTRUSION PROCESSING GUIDE INFORMATION

EQUIPMENT & CONDITIONS	SUGGESTIONS
Compound Series	WG 8000
Compound Drying	Dessicant type dryer 4 hours at 180°F (82°C) Hot air type dryer 4 hours at 170°F (77°C) Moisture to be below 0.02% Moisture should be checked with a moisture analyzer to confirm moisture level.
Color Concentrate	Are not recommended as there will already be color in the compound.
Machine Type	Single screw extruder
Screw Design	General Purpose Chrome Plated Screw 50% feed, 25% compression, 25% metering
Compression Ratio	1.8-3.2:1
L/D Ratio	20:1 minimum to 30:1 maximum
Barrel Type	Bi-Metallic Recommended
Breaker Plate	Not required but can be used depending on the process. Stainless steel is the preferred metal.
Screen Packs	Not Recommended
Screw Cooling	Air cooling can be used but is not required.
Die Design	Flat Plate dies are not recommended. Streamlined low inventory die design is preferred. Construction materials should be 420 stainless or hard-chrome plating.
Machine Temperatures	Barrel Temperatures 350-420°F (175-215°C) Die Temperatures 375-420°F (190-215°C) Melt Temperature 420-450°F (205-230°C) Measured with a melt probe.
Downstream Options	Cutting can be done with saws, the use of guillotines or fly knives will need to be evaluated by the customer.
Purging	Styrene can be used in addition to commercial purging compounds like Asaclean, Dyna-Purge and Ultimax.
Regrind	Regrind has to be treated like virgin compound and dried properly. Regrind loading needs to be determined by the customer.

EQUIPMENT & CONDITIONS

SUGGESTIONS

Additional Considerations

Acrylic is hygroscopic and must be dried properly to avoid processing and aesthetic defects.

Start-up Procedures

Once the extruder has reached operating temperatures, slowly rotate the screw. Increase the speed of the screw until the normal running speed is reached. Run until the melt is smooth. Stop the screw and assemble the preheated die as quickly as possible. Restart the screw at a low RPM until the melt exits the die. Slowly increase the RPM until the desired speed is reached, monitoring the load at all times. String the material through the downstream equipment.

Shut-down Procedures

Once the Acrylic has been removed from the feed throat, a purge compound should be introduced and run through the extruder. After the purge compound is the only thing exiting the die (no residual Acrylic) the extruder can be stopped and the die assembly can be removed for cleaning and storage. The screw should then be restarted and run at a low speed until all of the purging compound is removed from the screw and barrel.

The information and recommendations contained in this bulletin are, to the best of our knowledge, accurate and reliable but no guarantee of their accuracy is made. All products are sold upon condition that purchasers shall make their own tests to determine the suitability of such products for their particular purposes and uses and purchaser assumes all risks and liability for the results of use of the products, including use in accordance with seller's recommendations. Nothing in this bulletin constitutes permission or a recommendation to practice or use any invention covered by any patent owned by this company or by others. There is no warranty of merchantability and there are no other warranties for the products described. For detailed Product Stewardship information, please contact us. Any product of Teknor Apex, including product names, shall not be used or tested in any medical or food contact application without the prior written acknowledgment of Teknor Apex as to the intended use. Please note that some products may not be available in one or more countries.



North America

505 Central Avenue
Pawtucket, RI 02861
+1-401-725-8000
1-800-554-9892

Singapore

41 Shipyard Road
Singapore 628134
+65-62652544

China

Room 1003,
Lujiazui Finance Plaza
No. 1217, Dongfang Road
Pudong, Shanghai 200127
+86-21-50108083