THERMODAN®CP 0110-108 NT & BK Processing Quick Reference

Equipment Recommendations

Extruder:	2-1/2" to 6", 24:1 L/D or higher
Screw Type:	Low Intensity Metering Screw Compression Ratio ~ 2:1, deep exit depth desirable
Die:	Tubing - 30° die angle or less, a double angle is preferred, short land 1/8" or less
Drawdown:	Draw down ratio (DDR) of approximately 1.5 for tubing set-up; Draw ratio balance (DRB) close to 1
Feeder:	Gravimetric suggested
Dryer:	Regenerative-desiccant-type capable of -40°F/°C Dew Point
Cooling:	Heated water in 1st water trough

Processing Parameters (a good starting point)

Drying:	recommended	120-140°F for 2-4 hrs
Extruder Profile:	Feed:	310°F/154°C
	Transition:	335°F/168°C
	Metering:	365°F/185°C
	Crosshead:	365°F/185°C
	Die:	375°F/190°C
Water in 1st section of Trough:		Hot (110-150°F/43-66°C)
Target Melt Temperature:		360-370°F/182-187°C (extrudate should not exceed 400°F/204°C)
Feed Throat cooling:		None
Screw Cooling:		None
Screen Pack:		20 mesh
Screw Speed:		~ 30 RPM desired

Handling and Storage

THERMODAN Compounds:

- Store in ambient temperatures (40-80°F) tightly sealed original container.
- Should be stored in a dry area away from moisture and high humidity.
- Should be dried before using.

Processing

THERMODAN compounds are sensitive to heat and soak time, both must be controlled during the extrusion process to insure good processability and high extrusion quality, thus:

- Match line speed to RPM that achieves good extrudate surface with minimal dwell/soak time in the extruder.
- Resist the temptation to increase temperatures to correct rough surface – this will generally create hotspots that will degrade the material over longer run periods.
- Avoid idle time - bleed at low speed or purge when lengthy downtimes are experienced.
- Purge at high RPM for 1-2 minutes or until smooth and lump-free before start-up following extended downtime (more than 5 minutes).
- Compound will shrink upon cooling; tooling and drawdown should accommodate for shrinkage.
- Provide gradient cooling to maximize physical properties – provide warm/hot water in 1st trough

Shutdown

- Purge the extruder and tooling with polyethylene to remove any CPE - do not leave CPE in the extruder as it will scorch/burn and require complete clean out.
- Use a semi-rigid PVC at reduced temperatures to scrub the screw and facilitate the tear-down.
- Clean feeders, screw, barrel, breakerplate, crosshead and tooling to eliminate all traces of material.

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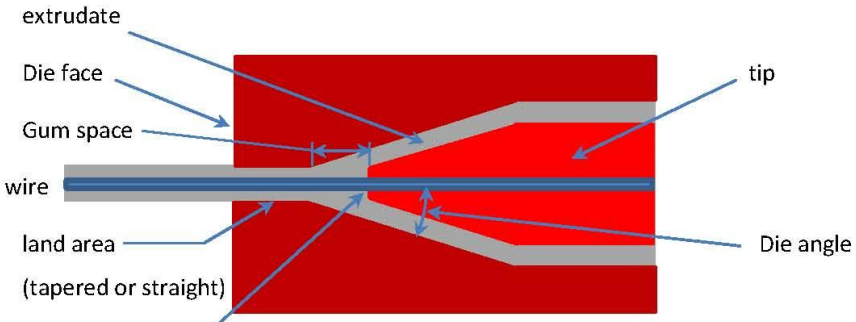
WIRE INSULATION AND JACKET TOOLING TYPES



PRESSURE TOOLING – straight or tapered land and tip is recessed

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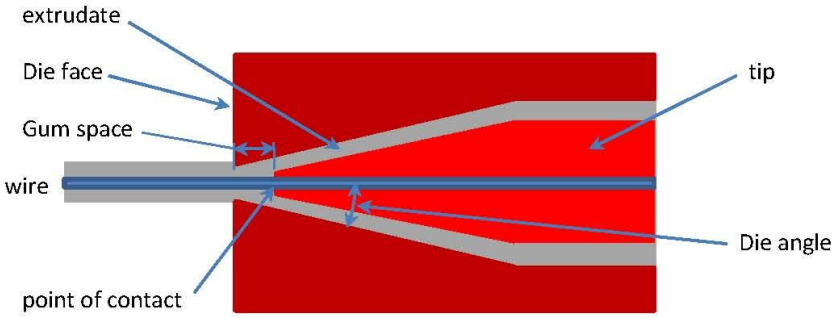
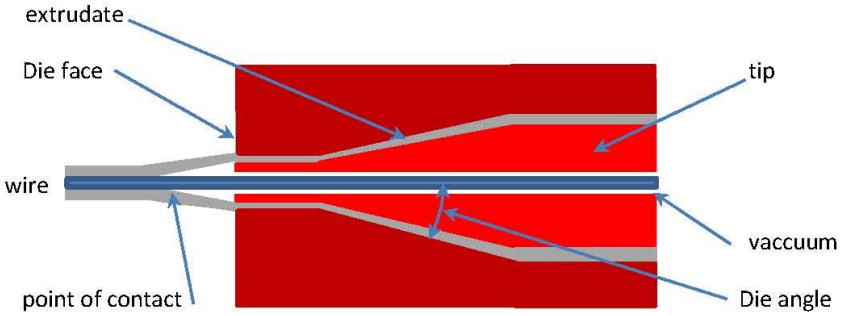


SEMI-PRESSURE TOOLING – no land and tip is recessed



TUBING TOOLING – straight land and tip is flush with die face

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