



EXTRUSION
ISO 9001-2000



SHEET EXTRUSION LINE



FONG KEE IRON WORKS CO., LTD.

**FKI Offers the Most Adaptable
Sheet Extrusion Lines for
Various Industries - with a
Wide Range of Applications:**



PP SHEET MAKING MACHINE >>>

(FOR THERMO FORMING PURPOSES)

For vacuum/thermo forming purposes, disposable
cups and dishes, food and fruit plates, and trays.
PP: 0.20 mm. - 1.40 mm. or 0.40 mm. - 1.40 mm.
HIPS: 0.2 mm. - 2.0 mm.



Model FK/SE/PP-125-1500

PET SHEET EXTRUSION LINE >>>

(FOR VACUUM THERMO FORMING PURPOSES)

For thermo forming purposes, blister packing and food trays.
PET: 0.1 mm. - 0.3 mm. and 0.25 mm. - 1.20 mm.



Model FK/SET-100-1500

PC/PMMA SHEET MAKING MACHINE >>>

For roofing and decoration purposes.
PC: 1.0 mm. - 6.0 mm.



Model FK/SE-125-1300-PC

Common Features for FKI's Sheet Extrusion Line:

The people, the knowledge, the experience, the strong dedication, ISO quality assurance manufacturing management and a responsible service attitude - all this forms a complete package to meet all your needs for sheet extrusion lines.

With 50 years of experience we are to offer a reliable, robust and innovative sheet extrusion line. A wide range of sheet extrusion lines are available which are flexible to cover all your needs - featuring superior design and performance to meet your specific requirements. Our sheet extrusion lines are designed and built for maximum reliability, versatility and production efficiency.

PP STATIONERY SHEET MAKING MACHINE >>>

For file and stationery usage.

PP: 0.12 mm. - 0.30 mm. and 0.35 mm. - 1.4 mm.



Model FPP-100-1300

ABS/HIPS SHEET MAKING MACHINE >>>

For thermo forming purposes, inner layers for refrigerators and bathroom closets.

ABS/PS: 1.0 mm. - 6.0 mm.



Model FK/SE-125-1500

MULTI LAYER CO-EXTRUSION SHEET LINE >>>

For cost saving on raw materials.

Generates recycled materials with a three-layer or five - layer co-extrusion system.

For special functions as barrier features five-layer or seven-layer co-extrusion system.



CO-EXTRUSION FEED BLOCK & T-DIE



Model FSE-125/90/65-1500

1. Extruder and Extruder Frame

The extruder is mounted on a heavy duty and robust steel frame to ensure a stable and vibration-free performance. The extrusion unit consists of a heated and cooled screw and barrel assembly driven by a double reduction helical gear box coupled by V-belts to a variable speed DC motor or AC motor with inverter control. Heating is achieved either by electrical mica heaters or an aluminum casting heater and cooling is done either by air cooled through air fan or with a closed loop water cooling circuit.

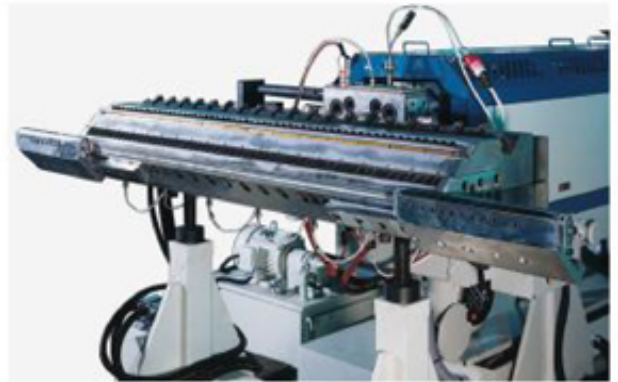
There is a screw with grooved feed zone to enable high output rates; or venting design for hygroscopic polymers; or barrier flight design with shearing and mixing section as to achieve optimum plasticizing and homogenizing performance; or combination design to process various polymers without change.

Co-extrusion extruders sit on a common base frame which is convenient for both cable/wire piping and operator maintenance. Feed pipes connected to the feed block and extruders are neat and well arranged to allow sufficient space for operation and maintenance.



2. Sheet T-die/Flat Dies

The well mixed melting polymer from the extruder will be formed into a melt curtain through the T-die which is fed to the polishing roll stack. FKI's sheet T-die is designed based on rheology and our long years of empirical data with the right steel and machining work done on the surface to give the optimum flow channel. Flexible lower die lip is a standard design when different sheet thicknesses are to be produced. Internal and external deckling device are available upon request to reduce the slot width.



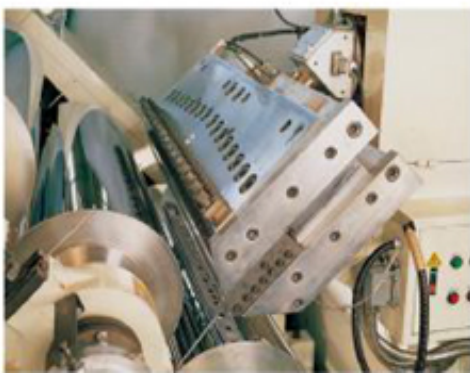
3. Polishing Roll Stack Unit

Important factors to achieve the best quality sheet surface are as following. Individual and direct drive for each roll by AC motor, with inverter control, ensures high precision speed control and fully synchronized operations - which eliminate roll marks. High precision temperature control and optimum design on cooling circuit ensure an even temperature for the whole roll width via water or oil mediums.

Roll surfaces to be highly glossy polished, semi-matt treated or texture embossed are available as options. A spacer is provided for changing the roll gap for different sheet thicknesses and features simple operation to achieve the best result.

There can be different arrangements for the roll stack, such as: vertical, horizontal, or 45 degree inclined according to the polymer and sheet thickness to be processed.

For thin sheet production, air knives can be added, along with two polish roll stacks, to achieve the best result.



4. Winder

There are different designs available to choose from, based on the sheet rigidity and thickness, as well as the final winding diameter. Types such as, the turret-type with manual cut, fully automatic cut and change over-type and jumbo reel-type for finished reels up to 1,500 mm. in diameter. The drive is with either a DC torque motor, an AC motor with inverter control or adding load cell for accurate tension control are available for choice.



5. Automatic Cutter

Based on the polymer and sheet rigidity, either guillotine-type or saw-cutting-type will be recommended for sheet that is too thick to wind up or sheet that is required to be cut into pieces.

There is hydraulic control for cutting operations with a photo cell for measuring sheet length. Cutting knife forwarding movement is controlled by the magnetic clutch and gear rack to ensure smooth production. Backward movement is controlled pneumatically.



6. Ancillary Equipment

The melt gear pump maintains and provides a consistent pressure and volume of melt from the extruder to the die head even if there is a surge and screw beating occurs due to different polymers. There are some critical polymers that are highly recommended to use melt gear pumps, such as PP, PC and PET. We adopt melt gear pumps from leading European and American suppliers.

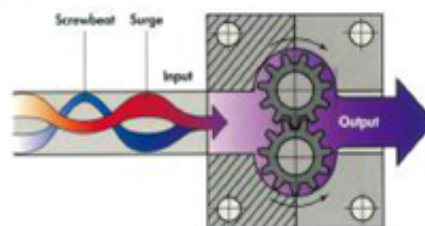
Lamination Unit

An optional device is located at either the top of or the bottom of the polish roll stack to unwind decorative film or protective paper onto the sheet surface during the sheet forming process.

6-1 Sheet Thickness Measurement Device

As an option, measuring gauges and devices can be added upon request to ensure ultimate and consistent quality control for mass production. Radio-activated sensors such as Gamma or Beta are available. Non-radio-activated sensors, such as infrared sensors are more popular these days as another choice for better convenience.

6-2 Gear Pump



6-3 De-humidifier For PET and PC Machines

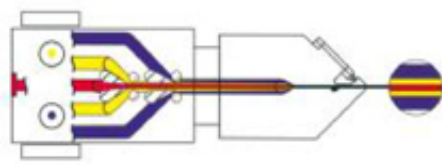


6-4 In-line Edge Trim Recycle Device

A device is used to regrind the edge trimmed wastage and feed back directly to the extruder hopper and consists of a granulator, feeding screw, silo tank and feeding pipes.



6-5 Co-extrusion Feed Block and T-Die





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