

Aluminum Composite Panel Production Line



[Technical Direction of LSFH1600 \(1250 \) Aluminum Composite Panel](#)

Components and functions of LSFH1600 (1250) Aluminum Composite Panel Production Line

1.Extrusion section

(1). Material mixer (600Kg/h) (2). Vacuum feeder (3). Extruder (4). Screen changer (5). Temperature control system (6). Electrical control system (7). Pneumatic system (8). Water supply system

Function:

The extrusion is specially designed for producing PE board. It has tough and tensile structure, stable performance, and strong bearing (capacity) ability for simultaneous changes of extrusive volume, especially suits for long-term operation.

Total power: 220KW

2. Coat-hanger type extrusion head

(1). Coat-hanger type extrusion head. (2).Temperature control system (six channels for

automatically constant temperature).

Function:

- (1). The extrusion head is used to control the extruding volume of PE board material, width of the lip is adjustable, you can adjust precisely extruding thickness of PE board.
- (2). The special flowing-channel design and constant temperature control device can guarantee constant temperature, constant speed and stable extrusion.

Total power: 40KW

3. Calendering section

- (1). Two/three-roller calendar (2). Constant temperature control and plate type electrical boiler. (3). Electrical control (4). Temperature control system (5). Water supply system

Function:

The material is extruded with coat-hanger type extrusion head, pressed by two-roller calendar and hauled by compound tractor to assure flat and smooth surface of plastic board. In addition, the thickness of finished plastic can be adjusted and controlled.

Total power: 7KW

4. Edge trimmer and winder

- (1). Size defining and edge trimming device. (2). Double winding station.

Function:

Defining width and trimming edge; qualified PE board is trimmed according to designed size in the light of specification.

Total power: 2.2KW

5. Unwinding section of aluminum sheet

- (1). Aluminum sheet unwinder (2). The upper unwinder frame of aluminum sheet (3). The lower unwinder frame of aluminum sheet (4). Positioning device (5). Tension control system (6). Edge position control (EPC) (7). Moving mechanism (8). Pneumatic system

Function:

The mechanism with tension control system and EPC can guarantee stably conveying of Aluminum board and PE board and can control Aluminum board not to be deviated under the designed tension condition.

Total power: 6KW

6. Unwinding section of hot-melt film

- (1). Hot-melt film un-winder (2). The upper un-winder frame of hot-melt film (3). The lower un-winder frame of hot-melt film (4). Machinery positioner (5). Tension control system (6). Curved roller (7). Upper and lower film pressing device

Function:
The mechanism installs macromolecular film un-winder, which can compound at the same time macromolecular adhesion agent on both upper and lower sides of plastic board. Combination of tension control and curved roller guarantee the needed expanding angle and tension.

Total power: 1KW

7. Aluminum board preheating section

(1). Aluminum board preheating and guiding roller (2). Constant temperature controls board type electrical boiler (3). Aluminum board preheating and guiding roller, heat conducting and oil heating system

Function:

The mechanism evenly pulls aluminum boards into compounding section to compound them at designed temperature.

Total power: 30KW

8. Hot-press compounding section

(1). Hot-press compounding machine (2). Hot-press compounding and heating roller (3). Constant temperature control board type electrical boiler (4). Aluminum board heating and guiding roller, heat conducting and oil heating system (5). Direct current (DC) Speed regulating system (6). Pneumatic system (7). Electrical control system

Function:

The mechanism adopts two sets of hot-press compounding system. Firstly, the heat aluminum board is heated by heating roller into designed temperature and hot-press system precisely informs aluminum plastic board to predetermined thickness; then adjusts smoothness of board surface and strengthens the compounding adherence; finally, cool and form board which has undergone this series of processing to get high-intensity and good smoothness aluminum multi-layer plastic board.

Total power: 48KW

9. The first conveying platform

(1). Rolling bed (2). Edge position adjusting mechanism

Function:

Conveying compounded aluminum plastic board to cooling and pulling section at certain speed.

10. The first cooling section

(1). Cooling roller
(2). Constant temperature control board type electrical boiler
(3). Aluminum sheet cooling and guiding roller, heat conducting and oil heating system
(4). Pneumatic system
(5). Electrical system

Function:

Cooling compounded Aluminum multi-layer plastic board at designed temperature for the first time to get smoothness of board. Total power: 33KW

11. The first pulling section

(1). Tractor (2). Steel pulling roller (3). Direct current (DC) speed regulating system (4). Pneumatic system (5). Electrical system

Function:

Its function is pulling compounded aluminum multi-layer plastic board at certain speed to guarantee the flatness of board.

Total power: 2.2KW

12. The second cooling section

(1).Electrical system

Function: Cool compounded aluminum multi-layer plastic board with fans.

13. The second conveying platform

(1). Rolling bed (2). Edge position adjusting mechanism

Function:

Convey the cooled, formed and pulled aluminum plastic multi-layer board to the second pulling section for reforming.

14. The second pulling section

(1). Tractor (2). Rubber pulling roller (3). Direct current (DC) speed regulating system (4). Pneumatic system (5). Electrical system

Function:

Its function is pulling again the cooled and formed aluminum plastic multi-layer board for confirming the smoothness of board.

Total power: 2.2KW

15. Unwinding section of protective film

(1). One-side thin film protecting device

(2). Adjustable extension roller

Function:

Its function is expanding one-side protective film to form a certain angle with adjustable extension roller, then covering the right side of the smooth and formed aluminum plastic multi-layer board with the film for protecting the appearance of aluminum plastic multi-layer board.

16. Automatic longitudinal trimming section

(1). Longitudinal positioning trimmer (2). Machine frame (3). Size defining device (4).

Electrical system

Function:

Its function is to convey aluminum plastic multi-layer board to longitudinal trimmer for longitudinal size defining and trimming. Having finished trimming edge, it will be sent into die-cutting device.

Total power: 2.2KW

17. Automatic transverse cutting section

(1). Transverse-moving trimmer (2). Supporting guideway (3). Automatic trimmer moving mechanism (4). Pressing system (5). Definite size inductive system (6). Pneumatic system (7). Machine frame (8). Electrical system

Function:

When the Aluminum plastic multi-layer board has been cooled and formed, this equipment is to transversely trim the board.

Total power: 1KW

18. The third conveying platform

(1). Rolling bed (2). Edge position adjustment mechanism

Function:

Its function is supporting the aluminum plastic multi-layer board which has been trimmed by transverse cutting trimmer and to act as turnover platform.

19. Storage platform

(1). Platform frame (2). Work platform

Function:

Its function is storing trimmed and qualified aluminum-plastic multi-layer board on platform.

20. Automatic stacking device (optional)

Moving method: Air cylinder & motor

Stacking length: 6000mm (Max)

Product chucking: By vacuum pad

Up & Down: Air cylinder lift control

Transverse movement hauling: Ac gear motor with rack & pinion controlled by inverter

Transverse movement: Guide roller (bearing)

Conveying length: 6000mm

Motor for conveying and hauling: Ac gear motor with inverter and controller