

JJ SMITH

Modern Methods of Construction

Machinery For Processing Structurally Insulated Panels (SIP)



**Flexible Automation Solutions
for the Offsite Building Industries**

SIP Processing

SIPs is an acronym for Structural Insulated Panel System. Two common methods are in use in the UK. High performance rigid polyurethane (PU) foam or rigid expanded polystyrene (EPS) insulation is bonded to oriented strand board (OSB) producing engineered building components. The result is a building product that is predictable, resource efficient and cost effective. SIPs are used as walls and roofs on all types of buildings.

WHAT ARE SIPs?



CNC ROUTER



A throughfeed processing station for SIP panels up to 300mm deep with:

- Import facility from design software.
- Automatic infeed and squaring of the panel.
- Side aligning.
- Routing around the four sides of the panel for squaring.
- Rebating for splines.
- Routing of the window openings.
- Automatic outfeed of the panel.

This station, ideally suited to be placed in a line after a press enables panels to be nested by the software and split by the machine.

TOOLING

Tooling for processing of SIP panels is important whether on manual or automatic machines.

J J Smith have extensive experience of specifying tooling for the processing of SIP.

Tooling available includes:

- CNC tooling including disposable tip cutters.
- Standard and HSK63 fixings.
- Blocks for spline rebating.
- Router cutters for window openings.



CROSSCUTTING

A special crosscutting machine designed specifically to meet the requirements of cutting SIPs panels.

This special long reach radial arm saw is capable of cutting straight panels up to 190mm deep by 1220mm wide. Panels can be bevel cut up to 150mm deep. Available with a full range of optional tables, length stops and laser line guides. The saw is complete with full perimeter safety guarding with the clamping and cutting operation activated by two hand push button safety control.



RIPPING

A heavy duty automatic horizontal saw for ripping SIP down the length of the panels up to 7.5m long by up to 180mm deep. On this machine the panel stays stationary while the saw carriage moves to make the rip cut. The speed of the saw carriage is variable and controlled by the operator. Once the cut has been made a power driven rear parallel fence pushes the panel forward to the required position - set on the programmer or digital readout - ready for the next cut to be made. The machine is fully guarded for safe operation and is linked to a separate waste extraction system thus minimising the dust produced during the cutting operation.

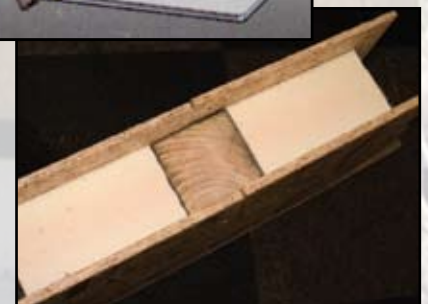
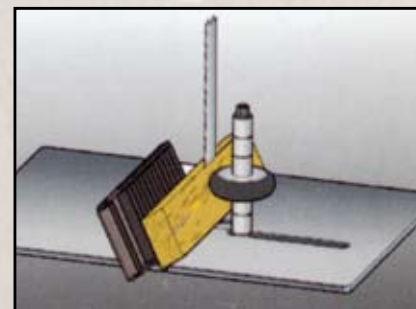


SPLINE MACHINING

A heavy duty power band resaw for cutting large section timber splines - both straight and angled.

These timbers can be quite large sections and the machine has been specified to have the capacity and power to process the required sections.

Complete with a feeding unit for variable angle feeding.



Rebating



Most SIP panels require a rebate to be made to insert a timber (or smaller SIP) spline for joining panels together.

We offer a spindle moulder with automatic feeding and a specially modified back fence to allow for the large quantity of foam that is sometimes removed.

Other features include:

- Fence extension tables
- Extendable front support
- Large depth of cut



The Complete Package

When setting up a SIP facility there are a number of ancillary items that need to be considered. J J Smith have experience of planning such installations and can assist with:

Conveyors

SIP is heavy and panels need to be moved around the factory from machine to machine with ease.



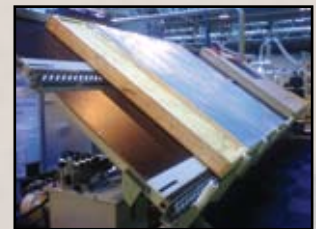
Layouts

Consideration needs to be given to the efficient layout of the factory.



Waste Extraction

Often overlooked initially - this is very important in a SIP installation and needs to be carefully considered.



Butterfly Tables

If complete walls are being assembled then the panels need to be turned over to be finished. We offer a butterfly table for the safe turning of panels.



Other Crosscuts

As a long established supplier of general woodworking machinery, we have a wide range of standard and automatic crosscuts for the cutting and subsequent assembly of internal and other none SIP walls.

JJ SMITH

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