

## PJS Solutions Partition System F120S Technical Data - 15m High

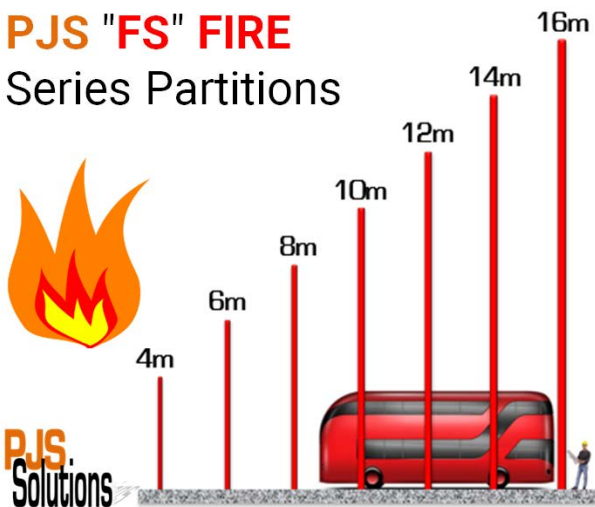


[https://pjssolutions.co.uk/pjs\\_f120s\\_fire\\_rated\\_series\\_partitions/](https://pjssolutions.co.uk/pjs_f120s_fire_rated_series_partitions/)

Max Build Height = 15m

F120S Smooth Painted Finish

### PJS "FS" FIRE Series Partitions



Installed by PJS Solutions

**PJS Solutions** Robust Partition System “F120S” has been designed to achieve 2 hour fire resistance up to heights of 15m using PJS heavy gauge steel sections clad with **PJS** robust performance boards with mineral wool infill to give excellent acoustic ratings. This system can be upgraded to achieve higher thermal & acoustic values. There are many options for heavy traffic / fork lift protection. **PJS Solutions** supply and install 2 hour fire rated fixed windows, doors & automated roller shutter doors to compliment the “F120S” system.

The **PJS Solutions** “F120S” system only uses **PJS** robust performance boards. **PJS** robust performance boards are inherently very much stronger than conventional plasterboard and, as well as its strength and acoustic properties, it also provides fire, impact, and moisture resistance. The strength comes from its gypsum matrix, which is reinforced with recycled paper and, because of its higher density, is far more effective in reducing sound transmission.

**Performance Table:**

Wall Height, up to:	<7m	<8m	<9m	<10 m	<11 m	<12 m	<13 m	<14 m	<15 m
Fire Rating (hours)	2	2	2	2	2	2	2	2	2
Stud Size (mm)	140	140	140	200	200	230	260	300	350
Stud Gauge (mm)	1.2	1.6	2.0	1.6	2.0	1.6	2.0	2.0	2.0
Stud Centres (mm)	600	600	600	600	600	600	600	600	600
PJS robust performance boards both sides (mm)	12.5 x 2	12.5 x 2	12.5 x 2	12.5 x 2	12.5 x 2	12.5 x 2	12.5 x 2	12.5 x 2	12.5 x 2
Mineral Wool 45kg/m3 (mm)	75	75	75	75	75	75	75	75	75
System weight / m2 (approx)	69	71	76	77	82	84	89	92	99
Acoustic Sound Rating (dB)	Basic rating = 62dB, can be upgraded to 68dB								
U-values W/m2k	Standard rating = 0.4 W/m2k upgradable to 0.18 W/m2k								

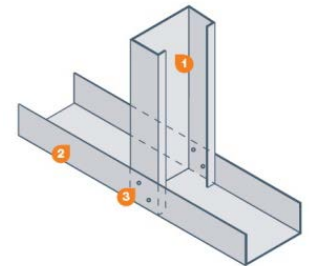
### Wall Lay Out & Components:

Partition systems range in height from 2.0m high up to 15m high, The 2 hour fire rating is backed by Warrington Fire Certificate. There is no limit to the length of the wall.

**PJS Standard Boards**      2 x layers of square edge PJS robust performance board fixed with PJS screws to steel stud using PJS Joint stick at board edges.  
 Dimension = 2400 x 1200 x 12.5mm  
 Weight per m<sup>2</sup> = 15 kg

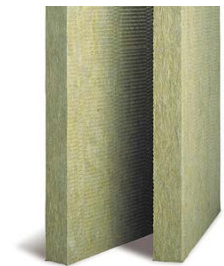


**C Studs**      From 150mm web / 54mm Flange / >12mm Lip / 1mm gauge  
 Maximum 300mm wide / 90mm Flange / >19mm Lip / 3mm gauge

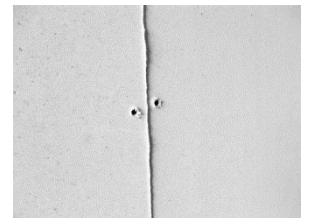


**Channel**      From 154mm web / 70mm Flange / 1mm gauge  
 Maximum 304mm web / 90mm Flange / 3mm gauge

**Mineral Wool Slab Insulation**      Mineral Universal Slab  
 From 75mm thick x 1200mm x 600mm  
 Density from 45kg/m<sup>3</sup> up to 100kg/m<sup>3</sup>



**PJS Joint stick**      For edge gluing PJS robust performance boards



**PJS Joint Filler**      For filling gap between boards and stopping screw heads

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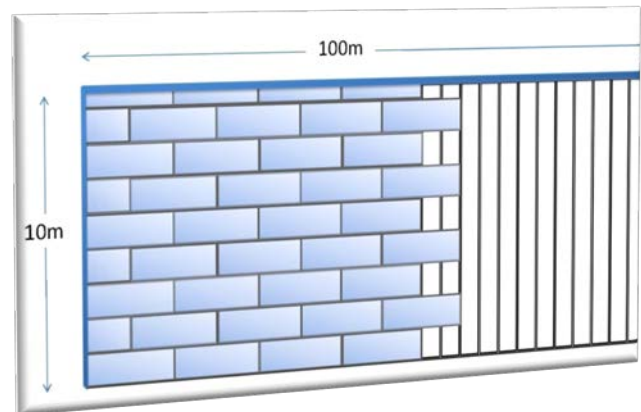
PJS Fine Surface Treatment

For giving PJS robust performance boards a smoother finish if required



### Advantages of PJS robust performance boards:

- **PJS** robust performance board is a class '0' and class '1' Board and provides F60 applications from single layer constructions up to 15m high.
- **PJS** robust performance boards waterproofing application system to give peace of mind. It can withstand humidity levels of up to 80% Rh. Maybe installed before building envelope is complete
- **PJS** robust performance boards is strong enough to use in schools, sports halls and hospitals, reducing the need for ply-backing. **PJS** robust performance boards meets BS 5234:part 2 Severe Duty Rating.
- **PJS** robust performance boards is high load bearing and can carry up to 30kg from a single screw and up to 50kg from 2 wall plug fitting which virtually



- **PJS** robust performance boards meets and exceeds Part E B893 and HTM 2045 requirements. It can be used for walls, ceilings or floors where sound proofing is required. A 100 mm wide stud wall with **PJS** robust performance board gives better acoustic reduction than a 275mm block wall.

eliminates the need for noggins



**Deflection Head Details:** Deflection head details are designed for each specific building taking into account roof crush factor and extreme wind loadings; please email [technical@pjssolutions.co.uk](mailto:technical@pjssolutions.co.uk) we will be pleased to assist you.

PJS robust performance boards dimensional tolerances at constant humidity – Board dimensions	
Length	± 1 mm
Width	± 1 mm
Diagonal difference	≤ 2 mm
Thickness: 10 / 12.5 / 15 / 18	± 0.3 mm
Nominal density, strength	
Nominal density (production target)	1150 ± 50 kg/m <sup>3</sup>
Bending strength (after drying at 40°C), at right angles to the board surface	≥ 5.8 N/mm <sup>2</sup>
Transverse strength	≥ 0.3 N/mm <sup>2</sup>
Certified tensile values according to DIN 1052 (Permit No: Z-9.1-434)	
Bending perpendicular to the board surface	1.2 N/mm <sup>2</sup>
Bending in board surface	1.1 N/mm <sup>2</sup>
Tension in board surface	0.5 N/mm <sup>2</sup>
Pressure in board surface	2.0 N/mm <sup>2</sup>

Pressure perpendicular to the board surface	2.5 N/mm <sup>2</sup>
Shearing in board surface	0.3 N/mm <sup>2</sup>
Shearing perpendicular to the board surface	0.6 N/mm <sup>2</sup>
<b>Modulus calculations (Permit No. Z-9.1-434)</b>	
E-Modulus perpendicular to the board surface	3800 N/mm <sup>2</sup>
E-Modulus parallel to the board surface	3800 N/mm <sup>2</sup>
E-Modulus tension	3800 N/mm <sup>2</sup>
E-Modulus compression	3800 N/mm <sup>2</sup>
Shearing modulus G perpendicular to the board surface	1600 N/mm <sup>2</sup>
Shearing modulus G bending in the board surface	1600 N/mm <sup>2</sup>
<b>Additional data</b>	
Vapour Resistance	μ 13
Thermal conductivity	0.32 W/mK
Specific heat capacity c	1.1 kJ/kgK
Brinell hardness	30 N/mm <sup>2</sup>
Swelling after 24 hrs saturation	< 2%
Thermal co-efficient of expansion	0.001%/K
Expansion/shrinkage on alteration of the relative humidity of 30% (20°C)	0.25 mm/m
Moisture content at 65% relative air humidity and 20°C air temperature	1.3%
Construction material category according to DIN 4102 Part 1 (non-combustible)	A2
pH value	7-8
<b>Characteristic strength and stiffness values of PJS robust performance boards in N/mm<sup>2</sup> for design calculation according to DIN 1052 (Test report No: Z-9.1-434/ETA-03/0050)</b>	<b>Thickness of board in mm</b>
	<b>10    12.5    15    18</b>
Perpendicular to the plane of the board	
Bending fm,k	4.6   4.3   4.0   3.6
Shear fv,k	1.9   1.8   1.7   1.6
In plane of the board	
Bending fm,k	4.3   4.2   4.1   4.0
Tension ft,k	2.5   2.4   2.4   2.3
Compression fc,k	8.5   8.5   8.5   8.5
Shear fv,k	3.7   3.6   3.5   3.4

**PJS Boards**

Sizes (mm)	10	12.5	15	18
Weight per m <sup>2</sup> (kg)	11.5	15	18	21
Square edge Boards				
1500 x 1000 mm	•	•	•	•



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Installed by PJS Solutions

1200 x 1200 mm	•	•	•	•
2400 x 1200 mm	•	•	•	•
2700 x 1200 mm	•	•	•	•
3000 x 1200 mm	•	•	•	•
Tapered edge Boards				
1200 x 800 mm (4 s.)		•		
2400 x 1200 mm (4 s.)		•		
2400 x 1200 mm (2 s.)		•	•	
Specially cut sizes on request				