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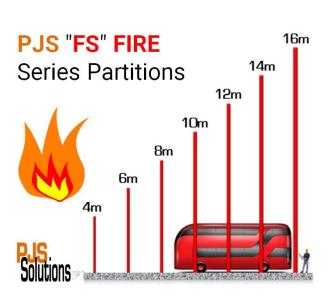
Website: <u>www.pjssolutions.co.uk</u>

# PJS Solutions Partition System F60S Technical Data - 12m High



https://pjssolutions.co.uk/pjs f60s fire rated series partitions/

Max Build Height = 15m



F60S Smooth Painted Finish





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#### Installed by PJS Solutions

PJS Solutions Robust Partition System "F6OS" has been designed to acheive 1 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 1 hour fire rated fixed windows, doors & automated roller shutter doors to compliment the "F6OS" system.

The PJS Solutions "F6OS" 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.

#### Robust performance Table:

| Wall Height, up to:                           | <7m   | <8m  | <9m  | <10<br>m | <11<br>m | <12<br>m         | <13<br>m | <14<br>m | <15<br>m |  |
|---|---|------|------|----------|----------|------------------|----------|----------|----------|--|
| Fire Rating (hours)                           | 1   | 1    | 1    | 1        | 1        | 1                | 1        | 1        | 1        |  |
| 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      | <mark>1.6</mark> | 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  | 12.5 | 12.5 | 12.5     | 12.5     | 12.5             | 12.5     | 12.5     | 12.5     |  |
| Mineral Wool 45kg/m3<br>(mm)                  | 75  | 75   | 75   | 75       | 75       | <mark>75</mark>  | 75       | 75       | 75       |  |
| System weight / m2 (approx.)                  | 39  | 41   | 46   | 47       | 52       | <mark>54</mark>  | 59       | 62       | 69       |  |
| Acoustic Sound Rating (dB)                    | Basic rating = <mark>54dB</mark> , can be upgraded to 68dB        |      |      |          |          |                  |          |          |          |  |
| U-values W/m2k                                | Standard rating = <mark>0.4 W/m2k upgradable to 0.18 W/m2k</mark> |      |      |          |          |                  |          |          |          |  |



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#### Wall Lay Out & Components:

Partition systems range in height from 2.0m high up to 15m high, The 1 hour fire rating is backed by Warrington Fire Certificate. There is no limit to the length of the wall.

PJS Standard Boards 1 x layer of Square edge PJS robust

performance board fixed with PJS screws

to steel stud using PJS Joint stick at

board edges.

Dimension = 2400 x 600 x 12.5mm

Weight per m2 = 15 kg

C Studs From 150mm web / 54mm Flange /

>12mm Lip / 1mm gauge

Maximum 350mm wide / 90mm Flange

/ >19mm Lip / 3mm gauge

Channel From 154mm web / 70mm Flange /

1mm gauge

Maximum 354mm web / 90mm Flange

/ 3mm gauge

Mineral Wool Slab Mineral Universal Slab

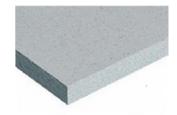
Insulation From 75mm thick x 600mm x 600mm

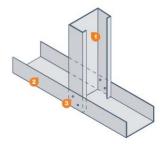
Density from 45kg/m3 up to 100kg/m3

PJS Joint stick For edge gluing PJS boards

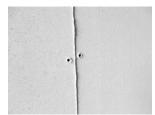
PJS Joint Filler For filling gap between boards and

stopping screw heads











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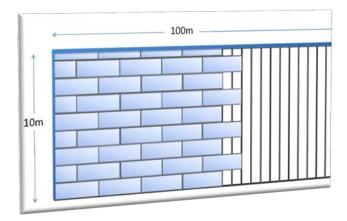
PJS Fine Surface Treatment

For giving PJS boards a smoother finish if required



#### Advantages of PJS robust performance boards:

- PJS robust performance boards is a class 'O' and class '1' Board and provides F6OS 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 robust performance boards is strong enough to use in schools, sports halls and hospitals, reducing the need for ply-backing. PJS robust performance meets BS 5234:part 2 Severe Duty Rating.
- PJS robust 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 eliminates the need for noggins



 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 gives better acoustic reduction than a 275mm block wall.



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Deflection Head Details: Deflection head details are designed for each specific building taking into accoung roof crush factor and extreme wind loadings; please email <a href="technical@pjssolutions.co.uk">technical@pjssolutions.co.uk</a> we will be pleased to assist you.

| PJS BOARD 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/m3      |  |  |  |  |  |
| Bending strength (after drying at 40°C), at right angles to the board surface | >= 5.8     |  |  |  |  |  |
|   | N/mm2      |  |  |  |  |  |
| Transverse strength   | >= 0.3     |  |  |  |  |  |
|   | N/mm2      |  |  |  |  |  |
| Certified tensile values according to DIN 1052 (Permit No: Z-9.1-434)         |            |  |  |  |  |  |
| Bending perpendicular to the board surface                                    | 1.2 N/mm2  |  |  |  |  |  |
| Bending in board surface  | 1.1 N/mm2  |  |  |  |  |  |
| Tension in board surface  | 0.5 N/mm2  |  |  |  |  |  |
| Pressure in board surface   | 2.0 N/mm2  |  |  |  |  |  |
| Pressure perpendicular to the board surface                                   | 2.5 N/mm2  |  |  |  |  |  |
| Shearing in board surface   | 0.3 N/mm2  |  |  |  |  |  |
| Shearing perpendicular to the board surface                                   | 0.6 N/mm2  |  |  |  |  |  |
| Modulus calculations (Permit No. Z-9.1-434)                                   |            |  |  |  |  |  |
| E-Modulus perpendicular to the board surface                                  | 3800 N/mm2 |  |  |  |  |  |
| E-Modulus parallel to the board surface                                       | 3800 N/mm2 |  |  |  |  |  |



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| EModulus compression         3800 N/mm2           Shearing modulus G perpendicular to the board surface         1600 N/mm2           Shearing modulus G bending in the board surface         1600 N/mm2           Shearing modulus G bending in the board surface         y 1 store of 1600 N/mm2           To represent the selectance         y 1 store of 1600 N/mm2           Thermal conductarity         Construction         Construction of the relative humidity of 30% (20°C)         Construction material cetegory according to DIN 4102 Pert 1 (non-combustible)         A2         Thickness of board           Construction material cetegory according to DIN 4102 Pert 1 (non-combustible)         A2         Thickness of board           The representation according to DIN 1052 (Fest report No. 2-9.1-434/ETAC3/D050)         Thickness of board           The representation according to DIN 1052 (Fest report No. 2-9.1-434/ETAC3/D050)         Thickness of board           Perpendicular to the plane of the board         A 4.6 4.3 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0  | E-Modulus tension                                     |                         |                |           | 38         | 800 N/  | mm2  |  |
|--|---|-------------------------|----------------|-----------|------------|---------|------|--|
| Shearing modulus G bending in the board surface   1600 N   1700  | E-Modulus compression                                 |                         |                |           | 38         | 800 N/  | mm2  |  |
| National details   National Conductivity   | Shearing modulus G perpendicular to the board surface |                         |                |           | 1600 N/mm2 |         |      |  |
| Page    | Shearing modulus G bending in the board surface       |                         |                |           | 1600 N/mm2 |         |      |  |
| Thermal conductivity   Specific heat capacity c   1.1 kJ/kgk   Specific heat capacity c   1.2 kJ/kgk   Specific heat capacity c   1.2 kJ/kgk   Specific heat capacity c   1.2 kJ/kgk   Specific network of expansion   1.2 kJ/kgk   Specific network of expansion   1.2 kJ/kgk   Specific network of expansion   1.2 kJ/kgk   Specific network of expansion of the relative humidity of 30% (20°C)   1.2 kJ/kgk   Specific network of expansion of the relative humidity of 30% (20°C)   1.2 kJ/kgk   Specific network of expansion of the relative humidity of 30% (20°C)   1.2 kJ/kgk   Specific network of expansion of the relative humidity of 30% (20°C)   1.2 kJ/kgk   Specific network of expansion of the relative humidity of 30% (20°C)   1.2 kJ/kgk   Specific network of expansion of the relative humidity of 30% (20°C)   1.2 kJ/kgk   Specific network of expansion of the relative humidity of 30% (20°C)   1.2 kJ/kgk   Specific network of expansion of the relative humidity of 30% (20°C)   1.2 kJ/kgk   Specific network of expansion of the relative humidity of 30% (20°C)   1.2 kJ/kgk   Specific network of expansion of the relative humidity of 30% (20°C)   1.2 kJ/kgk   Specific network of expansion of the relative humidity of 30% (20°C)   1.2 kJ/kgk   Specific network of expansion of the relative humidity of 30% (20°C)   1.2 kJ/kgk   Specific network of expansion of the relative humidity of 30% (20°C)   1.2 kJ/kgk   1.2 kJ/kgk   Specific network of expansion of the relative humidity of 30% (20°C)   1.2 kJ/kgk   Specific network of expansion of the relative humidity of 30% (20°C)   1.2 kJ/kgk   Specific network of expansion of   |   | Additional data         |                |           |            |         |      |  |
| Specific heat capacity c   1.1 kJ/kg K-  Finnell hardness   30 kJ/km K-  Finnell hardness   30 kJ/km K-  Finnell hardness   30 kJ/km K-  Finnell caefficient of expansion   2 kJ/km K-  Finnell caefficient of expansion of the relative humidity and 20°C air temperature   1.3 kJ-km K-  Finnell caefgory according to DIN 4102 Part 1 (non-combustiol)   7 kJ-km K-  Finnell caefgory according to DIN 4102 Part 1 (non-combustiol)   7 kJ-km K-  Finnell caefgory according to DIN 4102 Part 1 (non-combustiol)   7 kJ-km K-  Finnell caefgory according to DIN 4012 Part 1 (non-combustiol)   7 kJ-km K-  Finnell caefgory according to DIN 4012 Part 1 (non-combustiol)   7 kJ-km K-  Finnell caefgory according to DIN 4012 Part 1 (non-combustiol)   7 kJ-km K-  Finnell caefgory according to DIN 4012 Part 1 (non-combustiol)   7 kJ-km K-  Finnell caefgory according to DIN 4012 Part 1 (non-combustiol)   7 kJ-km K-  Finnell caefgory according to DIN 4012 Part 1 (non-combustiol)   7 kJ-km K-  Finnell caefgory according to DIN 4012 Part 1 (non-combustiol)   7 kJ-km K-  Finnell caefgory according to DIN 4012 Part 1 (non-combustiol)   7 kJ-km K-  Finnell caefgory according to DIN 4012 Part 1 (non-combustiol)   7 kJ-km K-  Finnell caefgory according to DIN 4012 Part 1 (non-combustiol)   7 kJ-km K-  Finnell caefgory according to DIN 4012 Part 1 (non-combustiol)   7 kJ-km K-  Finnell caefgory according to DIN 4012 Part 1 (non-combustiol)   7 kJ-km K-  Finnell caefgory according to DIN 4012 Part 1 (non-combustiol)   7 kJ-km K-  Finnell caefgory according to DIN 4012 Part 1 (non-combustiol)   7 kJ-km K-  Finnell caefgory according to DIN 4012 Part 1 (non-combustiol)   7 kJ-km K-  Finnell caefgory according to DIN 4012 Part 1 (non-combustiol)   7 kJ-km K-  Finnell caefgory according to DIN 4012 Part 1 (non-combustiol)   7 kJ-km K-  Finnell caefgory according to DIN 4012 Part 1 (non-combustiol)   7 kJ-km K-  Fi  | Vapour Resistance                                     |                         |                |           | μ 13       | 3       |      |  |
| Similar   Hardiness   Size   | Thermal conductivity                                  |                         |                |           | 0.3        | 2 W/m   | ηΚ   |  |
| Sewelling after 24 hrs saturation  | Specific heat capacity c                              |                         |                |           | 1.1        | kJ/kgŀ  | <    |  |
| Thermal coefficient of expansion   | Brinell hardness                                      |                         |                | 30 N/mm2  |            |         |      |  |
| Expansion/shrinkage on alteration of the relative humidity of 30% (20°C)   1.3%   1.3%    Moisture content at 65% relative air humidity and 20°C air temperature   1.3%    Tournation material category according to DIN 4102 Part 1 (non-combustible)   7.8%    PH value   7.8%   7.8%    Characteristic strength and stiffness values of PJS robust performance boards in N/mm2 for design   10  | Swelling after 24 hrs saturation                      |                         |                | < 2%      |            |         |      |  |
| Moisture content at 65% relative air humidity and 20°C air temperature   | Thermal co-efficient of expansion                     |                         |                | 0.001%/K  |            |         |      |  |
| A2         Tolsward (non-combustible)       A2         Tolsward (non-combust) (non-co  | Expansion/shrinkage on alteration of the relative     | e humidity of 30% (20°C | ]              | 0.25 mm/m |            |         |      |  |
| Ph value   | Moisture content at 65% relative air humidity ai      | nd 20°C air temperature | )              | -         |            |         |      |  |
| Characteristic strength and stiffness values of PJS robust performance boards in N/mm2 for design         Thickness of board           calculation according to DIN 1052 (Test report No: Z-9.1-434/ETA-03/0050)           10         12.5         15         18           Perpendicular to the plane of the board           Bending fm.k         4.6         4.3         4.0         3.6           Shear fv,k         4.3         4.2         4.1         4.0           Tension ft,k         4.3         4.2         4.1         4.0           Shear fv,k         2.5         2.4         2.5         8.5         9.5         9.5         <   | Construction material category according to DIN       | N 4102 Part 1 (non-com  | bustible)      | A2        |            |         |      |  |
| N/mm2 for design   Calculation according to DIN 1052 [Test report No: Z-9.1-434/ETA-U3/0050]   | pH value  |                         |                |           | 7-8        |         |      |  |
| Perpendicular to the plane of the board  | Characteristic strength and stiffness values          | of PJS robust performa  | ance boards in | Thi       | ckness     | of boar | d in |  |
| Perpendicular to the plane of the board  | N/mm2 for   | design                  |                |           | m          | m       |      |  |
| Rerpendicular 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       Use 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       8.5         Shear fv,k       3.7       3.6       3.5       3.4       2.4       2.4       2.3         Shear fv,k       1.0       1.5       1  | calculation according to DIN 1052 (Test re            | eport No: Z-9.1-434/ET  | A-03/0050)     |           |            |         |      |  |
| Bending fm,k   |   |                         |                | 10        | 12.5       | 15      | 18   |  |
| 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         Sysses (mm)       10       12.5       15       18       1   | Perpendicular to the plane of the board               |                         |                |           |            |         |      |  |
| In plane of the board  | Bending fm,k  |                         |                | 4.6       | 4.3        | 4.0     | 3.6  |  |
| 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   | Shear fv,k  |                         |                | 1.9       | 1.8        | 1.7     | 1.6  |  |
| Tension ft,k   | In plane of the board                                 |                         |                |           |            |         |      |  |
| Compression fc,k       8.5   | Bending fm,k  |                         |                | 4.3       | 4.2        | 4.1     | 4.0  |  |
| Shear fv,k   3.7   3.6   3.5   3.4   3.5   3.5   3.4   3.5   3.5   3.4   3.5 | Tension ft,k  |                         |                | 2.5       | 2.4        | 2.4     | 2.3  |  |
| PUS Boards         Sizes (mm)         10         12.5         15         18           Weight per m2 (kg)         11.5         15         18         21           Square edge Boards         ************************************   | Compression fc,k                                      |                         |                | 8.5       | 8.5        | 8.5     | 8.5  |  |
| Sizes (mm)       10       12.5       15       18         Weight per m2 (kg)       11.5       15       18       21         Square edge Boards       ****       ****       ****       ****         1500 x 1000 mm       •       •       •       •       •         600 x 600 mm       •       •       •       •       •         2400 x 600 mm       •       •       •       •       •         2700 x 600 mm       •       •       •       •       •         3000 x 600 mm       •       •       •       •       •         Tapered edge Boards       •       •       •       •       •       •   | Shear fv,k  |                         |                | 3.7       | 3.6        | 3.5     | 3.4  |  |
| Weight per m2 (kg)       11.5       15       18       21         Square edge Boards             1500 x 1000 mm              600 x 600 mm              2400 x 600 mm              3000 x 600 mm              Tapered edge Boards  | PJS Boards  |                         |                |           |            |         |      |  |
| Square edge Boards         1500 x 1000 mm       • • • • •         600 x 600 mm       • • • • •         2400 x 600 mm       • • • • •         2700 x 600 mm       • • • • •         3000 x 600 mm       • • • • •         Tapered edge Boards   | Sizes (mm)  | 10                      | 12.5           | 15        | 5          | 18      |      |  |
| 1500 x 1000 mm  • • • • • • • • • • • • • • • • • •  | Weight per m2 (kg)                                    | 11.5                    | 15             | 18        | 3          | 21      |      |  |
| 600 x 600 mm   | Square edge Boards                                    |                         |                |           |            |         |      |  |
| 2400 x 600 mm       •       •       •       •         2700 x 600 mm       •       •       •       •         3000 x 600 mm       •       •       •       •         Tapered edge Boards  | 1500 x 1000 mm  | •                       | •              | •         |            | •       |      |  |
| 2700 x 600 mm       •       •       •       •         3000 x 600 mm       •       •       •       •         Tapered edge Boards  | 600 x 600 mm  | •                       | •              | •         |            | •       |      |  |
| 3000 x 600 mm • • • • • Tapered edge Boards  | 2400 x 600 mm   | •                       | •              | •         |            | •       |      |  |
| Tapered edge Boards  | 2700 x 600 mm   | •                       | •              | •         |            | •       |      |  |
|  | 3000 x 600 mm   | •                       | •              | •         |            | •       |      |  |
| 600 x 800 mm (4 s.)  | Tapered edge Boards                                   |                         |                |           |            |         |      |  |
|  | 600 x 800 mm (4 s.)                                   |                         | •              |           |            |         |      |  |



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| 2400 x 600 mm (4 s.)           | • |   |
|--------------------------------|---|---|
| 2400 x 600 mm (2 s.)           | • | • |
| Specially cut sizes on request |   |   |