

Speedframe

DESIGN and ASSEMBLY GUIDE

DESIGNING

1 SKETCHING THE UNIT

Make a simple sketch of the unit to be built. Show tube lengths and joint numbers (Figure 1).

(To calculate overall dimensions add 1.6 mm to tube length for each insert and 25.4 mm for each joint.) Beside the sketch, make a list of materials needed – tube lengths, joints, inserts, shelf supports, shelving material etc., referring to the Speedframe Components Guide.

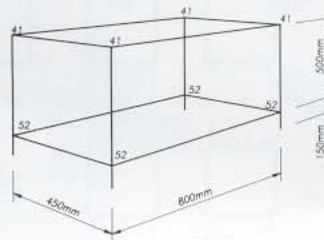


FIG 1

LIST OF MATERIALS

(Dimensions shown refer to tube lengths.)

SQUARE TUBE

4 off 800 mm =	3200 mm
4 off 500 mm =	2000 mm
4 off 450 mm =	1800 mm
4 off 150 mm =	600 mm
Total =	7600 mm

JOINTS

4 off 4.1 (1 pkt)
4 off 5.2 (1 pkt)

ACCESSORIES

28 off Inserts
4 off Adjustable Feet

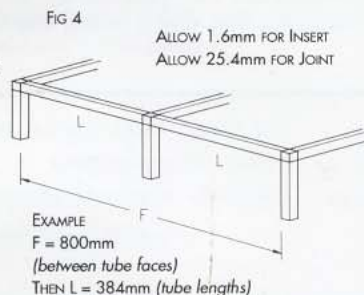
2 DESIGN RULES

(i) Load-bearing capacity depends on design of structure; for instance, a cube of Speedframe is much stronger than a structure with long legs (Figure 2). Avoid continuous spans of more than 1829 mm. The following table can be used as a guide to safe beam loadings.

STEEL SPEEDFRAME

Safe distributed load per beam

SPAN	LOAD
610 mm	200 kg
914 mm	100 kg
1219 mm	65 kg
1524 mm	40 kg
1829 mm	30 kg



ALLOY SPEEDFRAME

Alloy system takes approximately 1/3 steel beam loads.

(ii) Intercepted members must never be load-bearing, unless they are supported by a downward strut (Figure 3). When calculating lengths of intercepted members, allow for size of joint and inserts (Figure 4).

(iii) When designing with slotted tube, always work in 25.4 mm modules. When cutting slotted tube, always cut midway between slots.

(iv) To strengthen legs of structures, always fit base ties not more than 152 mm above the ground. When building trolleys, either fit base ties at the bottom and use plate-fitting castors, or fit reinforced leg units and use 102 mm diameter plug-fitting castors. When fitted in this way, these castors are suitable for industrial use, and will carry loads of up to 68 kg per castor.

A CUBE OF SPEEDFRAME IS VERY STRONG



FIG 2



THIS IS CORRECT PROVIDED LEGS ARE NOT MORE THAN 152 mm LONG



FIG 3



CORRECT. ALL JOINTS SUPPORTED BY DOWNWARD STRUTS

3 CUTTING

If not using ready-cut lengths, cut tube to size using a hacksaw and a Speedframe trimming block. (The block should be screwed down to a firm working surface.) For maximum economy, cut longest lengths first. Carefully remove burrs from cut ends of tube, using a file.

4 MAKING JOINTS

Push insert into open end of tube. Use hard inserts for rigid structures, soft white inserts for structures to be frequently dismantled and rebuilt. Select the joint required and push the arm of the joint into end of tube. (If using single or double shelf supports, these should be sandwiched between joint and insert at this stage.) Strike the head of the joint (not the arms) with the white face of the Speedframe hammer to drive the joint home; the insert will then retain it firmly in place. Avoid hammering open ends of tube – interpose a piece of wood.

Speedframe frame-works can be dismantled by knocking apart with the Speedframe hammer. But joints likely to suffer severe vibration or pull-out loads should be permanently fixed by pinning, as follows: Before making the joint, punch a hole through the tube with the pinning punch to align with the hole provided in the arm of the joint. Tap in the joint with the Speedframe hammer, then use an ordinary hammer to fit a drive screw into the hole in the tube, so that it passes into the hole in the joint arm.

Note: Some joint arms have no holes. To pin these, drill a 4.7 mm diameter hole through them to accept the drive screw.

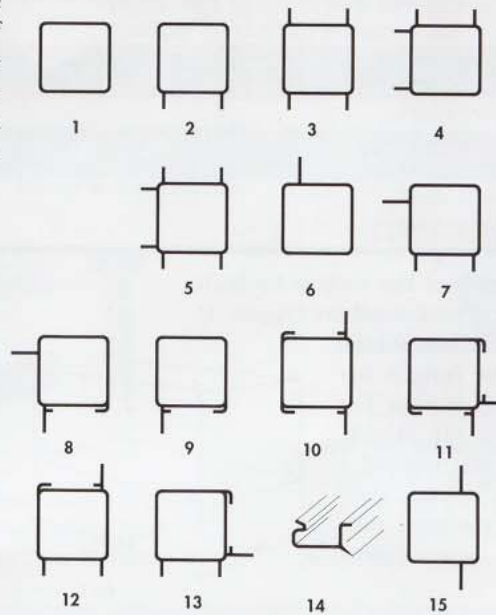
IMPORTANT

FAILURE TO PROPERLY APPLY THE DESIGN AND ASSEMBLY INSTRUCTIONS CONTAINED HEREIN MAY RESULT IN YOU BUILDING AN UNSAFE STRUCTURE. IF IN ANY DOUBT WHATSOEVER, CONTACT YOUR LOCAL DEXION CENTRE FOR ADVICE BEFORE PROCEEDING.

5 TUBE PROFILES

The Alloy Speedframe system comprises a range of extruded aluminium tubes, with joints and inserts as for the steel system. These extrusions cater for a wide range of cladding and glazing requirements and allow considerable flexibility in designing display partitioning and exhibition applications. The natural anodised finish, with colour/matched joints, is durable and aesthetically pleasing.

1. Plain tube 25 mm square
2. 1-way cladding tube
3. 2-way cladding tube (opposite)
4. 2-way cladding tube (adjacent)
5. 3-way cladding tube
6. Fin
7. Fin-cladding tube
8. Fin-glazing tube
9. 1-way glazing tube
10. 2-way glazing tube (opposite)
11. 2-way glazing tube (adjacent)
12. Glazing-cladding tube (opposite)
13. Glazing-cladding tube (adjacent)
14. Glazing bead-Alloy
15. Double fin (opposite)



All tubes are 25mm square, extruded from aluminium alloy in natural finish and clear anodised.

PACKING: Standard Pack: 16 x 3658 mm nominal lengths (plus allowance for cutting waste).

Cut Lengths: In any size from 102 mm to 3658 mm. Glazing bead-Alloy is supplied in 2540 mm nominal lengths.

A SSEMBLY

Special points for Alloy Speedframe:

1. Mitre fins of the section, if necessary, using nylon template and clippers or fine toothed hacksaw.
2. Cladding must be fitted before framework is completed.
3. Glass can be inserted after framework is completed as it is retained by a snap-in bead.
4. In situations where the pinning punch cannot be used owing to the fins, drill a hole 5 mm diameter from the end of the tube.

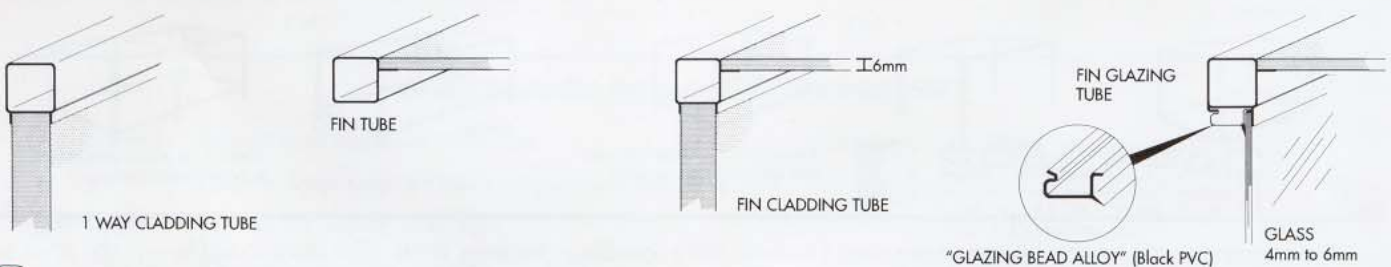
7 JOINTS

Standard Speedframe joints provide the seven possible right-angle intersections of square tube. The joints are pressure die-cast in aluminium alloy and stove-enamelled to simulate the finish of

the tubes. Joints type 6.6 are supplied unfinished as they are not visible when assembled.

PACKING: 4 per pack, except 6.6 which has 2 per pack.

2 APPLICATIONS



3 PANEL LINK

A simple system for connecting panels (made from alloy tube) together at any angle to provide self-standing displays. The Panel Link Set consists of 4 silver type 1.1 joints, 2 top screws, 2 levelling screws and nuts, 2 link plates and 4 screw caps (see Figure 5).

4 INSERTS and ACCESSORIES

Inserts are made of clear, hard, creep resistant moulded polypropylene. PACKING: 24 per pack.

A number of accessories listed for Steel Speedframe can also be used with Alloy Speedframe:

- Nylon Cap
- Adjustable Foot
- Flange
- Plug-fitting Castor, 51 mm diameter
- Drive Screws
- Anchor Plates

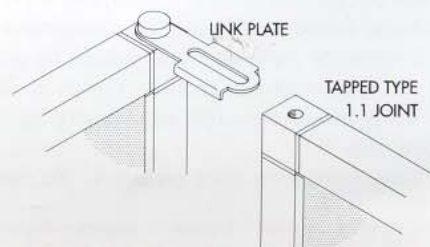
FIG 5

SCREW CAP

TOP SCREW

LINK PLATE

TAPPED TYPE
1.1 JOINT



SPEEDFRAME COMPONENTS GUIDE

PLAIN TUBE

25 mm square cold-rolled mild steel tube, stove-enamelled black.



SINGLE SLOTTED TUBE

Square tube, punched with 20 mm x 3 mm slots at 40 mm centres on one face of the tube. Stove-enamelled black.



DOUBLE SLOTTED TUBE

Square tube, punched with 20 mm x 3 mm slots at 40 mm centres, on two opposite faces of the tube. Stove-enamelled black.



TRIPLE SLOTTED TUBE

25 mm square tube with 20 mm x 3 mm slots in the face at 40 mm centres on three faces. Finish: Stove-enamelled black.



NYLON CAP - BLACK

Loading: Up to 227 kg each.

JOINTS

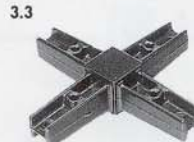
Pressure die-cast in aluminium alloy and stove-enamelled black. The 6.6 joint which is not visible in the finished structure is not painted.



1.1



2.2



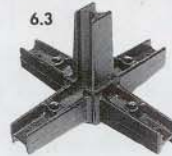
3.3



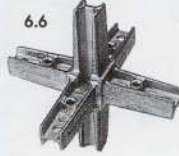
4.1



5.2



6.3



6.6



STRAIGHT THROUGH JOINT



ROUNDED 1.1



ROUNDED 4.1

INSERTS

Moulded in hard, creep resistant plastic in black. (Soft white polyethylene inserts are available for building less rigid structures which may be frequently knocked down and reassembled)



PLUG FITTING CASTOR-50 MM

These castors are not suitable for trolleys used over uneven floors or for heavy-duty use. 51 mm diameter black acetal plastic wheel on silver-grey swivel mounting. Loading: Up to 30 kg each. Supplied in packs of 4 (2 left-handed, 2 right-handed)



PLUG FITTING CASTOR-100 MM

Wheel fitted by means of a plug into the end of the tube. Grey rubber tyred wheel on zinc-chromated swivel mounting. Loading: Up to 39 kg each, or 57 kg each if used with Speedframe reinforced leg unit.



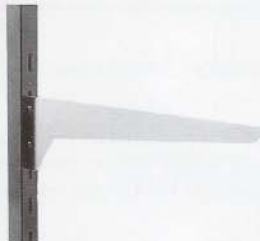
PLATE-FITTING CASTORS

Fitted with 63 mm diameter nylon wheel. Fixed or swivel. Loading: Up to 41 kg each.



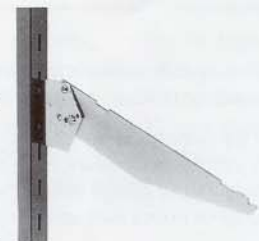
SHELF BRACKETS-STRAIGHT

Steel stove-enamelled black. Lengths: 150 mm, 200 mm, 250 mm or 300 mm from face of tube. Loading: Up to 45 kg per bracket depending on the design of the framework.



SHELF BRACKETS -ADJUSTABLE

Adjustable in three stages in 17 1/2° increments. Steel stove-enamelled black 300 mm or 400 mm long from face of tube. Notched to accept cantilever support clips. Choice of 2 or 3 lug. Loading: Up to 20 kg per bracket depending on design of framework.



SINGLE SLOTTED STRIPPING:

A "C" shaped channel (19 mm x 13 mm) with 20 mm x 3 mm slots in the face at 40 mm centres and fixing holes at 202 mm centres. Finishes: White, raw or chrome.



DOUBLE SLOTTED STRIPPING:

A "C" shaped channel (32 mm x 13 mm) with two parallel rows of 20 mm x 3 mm slots in the face at 40 mm centres and fixing holes at 202 mm centres. Finishes: White, raw or chrome.



ADJUSTABLE FOOT

Plastic foot with zinc-plated cap. Adjustable for height and angle. Loading: Up to 227 kg each.



ANCHOR PLATE

Die-cast in aluminium alloy and stove-enamelled black.



FLANGE

Bright zinc-plated steel, punched to accept countersunk screws.



REINFORCED LEG UNIT

Use in conjunction with 102 mm diameter plug-fitting castors. The unit must be fixed to the horizontal frame tubes with drive screws passing through the plate and tubes and into the horizontal joint spigots.



ADJUSTABLE SHELF BRACKET CLIP

Glass reinforced nylon. Perforated to accept shelf-fixing screws, or flat headed grommets for supporting glass shelving. Loading: Four brackets safely carry a distributed load of 120 kg.



SINGLE SHELF SUPPORT

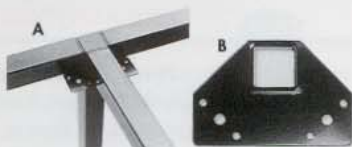
Steel, stove-enamelled black. Perforated to accept plastic shelf paper or shelf-fixing screw. Loading: Up to 45 kg per support.



SPEEDFRAME COMPONENTS GUIDE CONTINUED

DOUBLE SHELF SUPPORT

Steel, stove-enamelled black. Perforated to accept plastic shelf paper or shelf-fitting screws. Loading: Up to 45 kg per support.



REMOVABLE SHELF SUPPORT

Supports shelves up to 25 mm thick. Steel, stove-enamelled black. Perforated to accept plastic shelf spacer or shelf-fixing screw. Loading: Up to 91 kg per support.



PLASTIC SHELF SPACER

For building up shelves of less than 25 mm thickness to flush with top of face of tube. They clip onto single, double or removable shelf supports or onto one another. Polyethylene 3.2 mm thick in black. Perforated to accept shelf-fixing screw.



DRIVE SCREW

Metal screw for pinning joints and tube together where vibration or pullout is likely, 19 mm long. Driven in with hammer.



FRONT GLASS SUPPORT

Fits onto sloping brackets to provide glass shelf support. Made of mild steel; chrome finish.



ALLOY GLAZING SECTION

Alloy tube with external fins for locating glass tops, fronts and partitions. Glass is retained by a flexible snap-in bead (see Tube Profiles).

CLADDING SECTION

Alloy tube with external fins to accept particle board as room dividers. Fins conceal cut edges (see Tube Profiles).

PLASTIC CENTRE CLIP, END CLIPS WITH GROMMETS

These clips locate onto shelf brackets and with grommets fitted, provide a cushioned support for glass shelves. Finish: Clear plastic.



A ASSEMBLY TOOLS



SOFT FACED HAMMER



CUTTING BLOCK



PINNING PUNCH



CLIPPERS



TEMPLATE

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