

CERTIFICATE OF TESTING



Leyland Technical Centre

CLIENT: Maxmade Limited
Reliance Works
Rainhill
Prescot
Merseyside L35 9JF

CLIENT'S REF: 3890

JOB NUMBER: MAX 0102

TEST PERIOD: 2/8/96 to 3/8/96

ISSUED TO: Mr. A.P.McCarthy

PAGE 1 OF 2

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Title: Load Carrying Capacity of Coldstore Ceiling

Test standard(s): Customer Specified

Test piece description: Inverted Top-Hat Section

Date test piece received: 31/7/96

METHOD

Two 3.6 metre lengths of inverted top-hat section were joined together using the specified jointing channel and fixings. The top-hat section was then supported at 3 points (1.8 metre centres) the centre support being at the interface of the two lengths through the jointing channel using M12 BZP studding and fixtures. These being assembled in accordance with Maxmade drawing number TH30.

Each support studding was attached to a load cell and grounded to the test rig fixture.

Load was applied to each flange of the beam via a wooden loading platen using sand bottles.

The load was arranged over a length of the beam to achieve the maximum load specified at each support point. See Figure 1 Photograph showing the test set up.

Dial test indicators were positioned at 2 support points and at a central position between the two supports and deflections of the inverted top-hat section recorded.

Load was then maintained on the test sample for a period of 16 hours. All load was then removed and any residual deflections recorded.

RESULTS

Two 3.6 metre lengths of inverted top-hat section joined together using a jointing channel and assembled in accordance with Maxmade drawing TH30 withstood a uniformly distributed load of 450kg/m. This being 1.5 times the design load of 300kg/m.

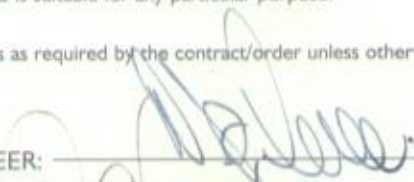
The applied load to each support point was 810kg which is based on a maximum span between supports of 1.8metres.

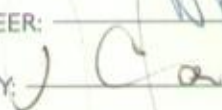
i.e. $1.8 \times 300 \times 1.5 = 810\text{kg}$ (7.95kN)

No representation or warranty is given that tests performed under the terms of the Contract constitute, in themselves, a sufficient programme for the customer's purpose, nor that customer's equipment tested is suitable for any particular purpose.

Certified that the specimens detailed hereon have been subjected to the tests as required by the contract/order unless otherwise stated above.



TEST ENGINEER: 

APPROVED BY: 

ISSUE DATE: 13/9



At maximum load a deflection of 6.15mm was recorded at a position central to the two supports points.

Maximum load was then retained for 16 hours and upon removal of load a resulting permanent deformation of 1.04mm was recorded. No visual signs of structural failure were apparent when inspected.

At maximum load the worst case deflection at a support point was 0.89mm which resulted in a residual deflection of 0.36mm and slight localised distortion of the Top-Hat section around the support point fixing.

TEST EQUIPMENT USED

3 off 50kN Mayes Load Cells
3 off Shape Readout Units
3 off Dial Test Indicators

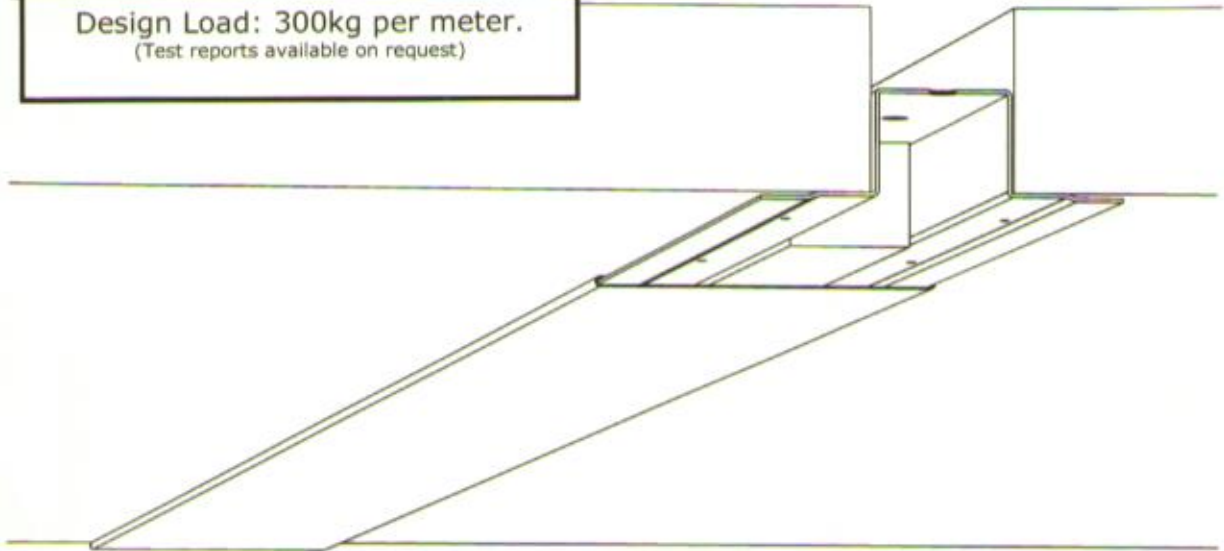
LDC 001, 003, 125
LOI 007, 009, 010
DIG 036, 067, 148

**Figure 1 Photograph showing a general view of the inverted top-hat section under load.
Photo No. TC 105405**



Inverted Ceiling Suspension

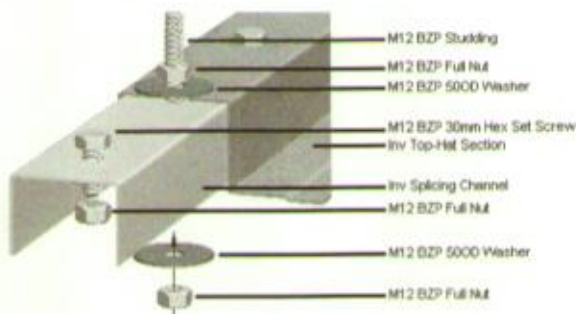
Design Load: 300kg per meter.
(Test reports available on request)



The Inverted ceiling suspension is manufactured from Z28 galvanised 2mm steel.

Suspension is illustrated below.

Bottom Suspension Assembly



Exploded view of BSA

Inverted Top-Hat Run

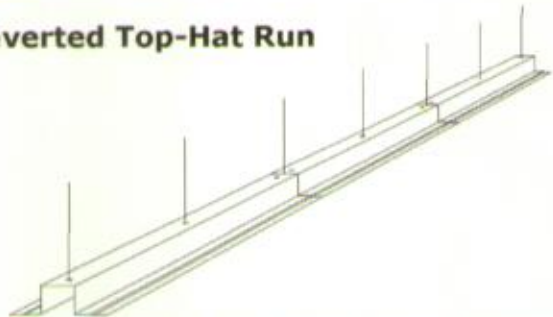


Diagram of Inverted top hat run, showing correct locations of drop rods. Note that first full hole on each top hat is only used on the two ends of each run, all other drops are in the middle of each top hat and in between each joint (see dia of BSA).

Drawing No TH30

Issue 01/04



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