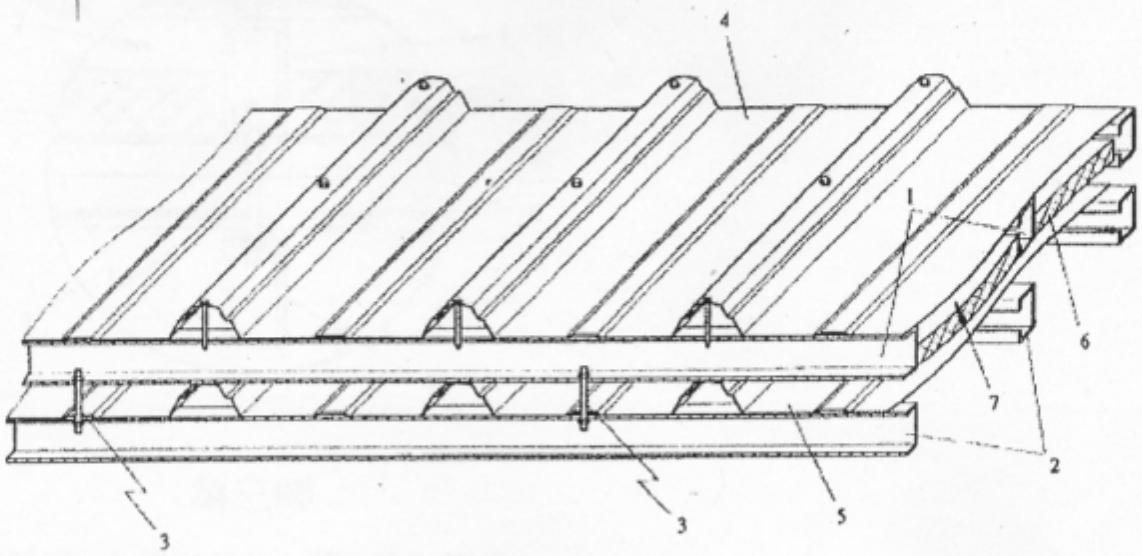
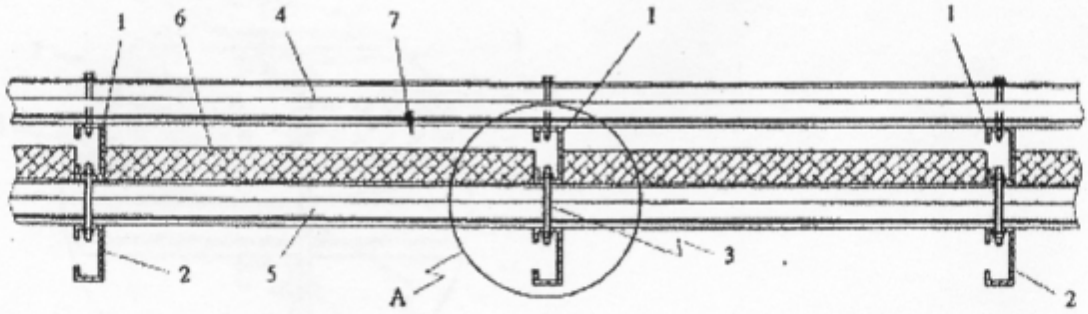
附件一、系爭專利相關圖式：



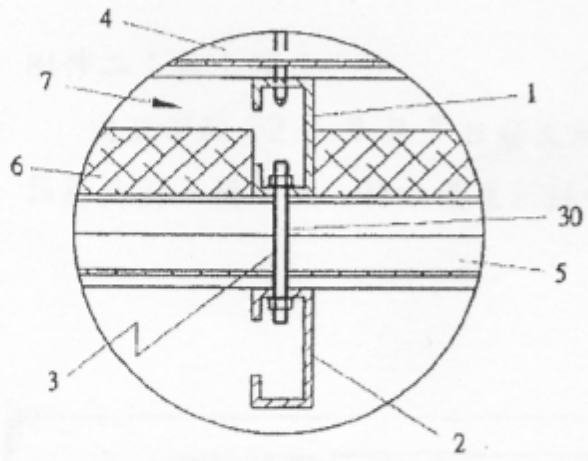
第一圖

第一圖：本發明實施例(一)立體視圖。



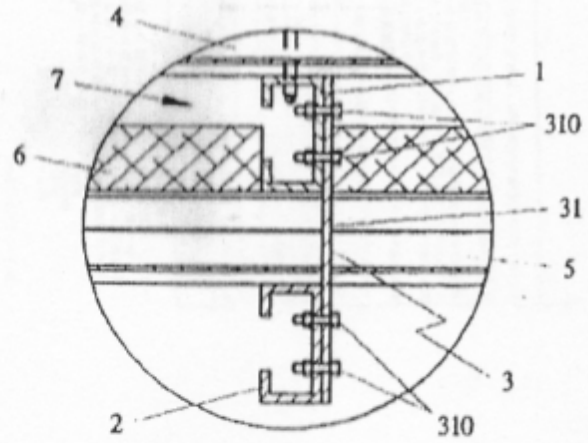
第二圖

第二圖：本發明實施例(一)剖視圖



第三圖

第三圖：如第二圖之 A 部份放大視圖

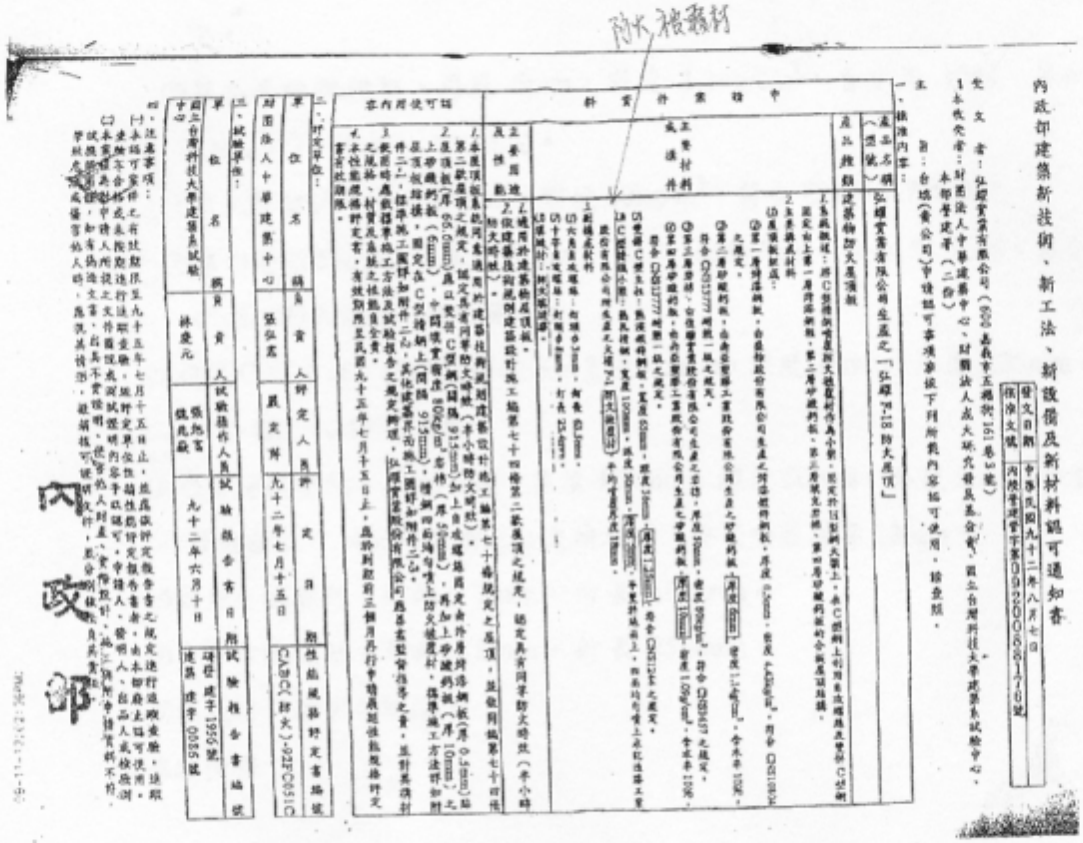


第四圖

第四圖：本發明實施例(二)部份放大視圖

附件二：被上證三

內政部於 92 年 8 月 7 日發文給弘耀實業有限公司之「內政部建築新技術、新工法、新設備及新材料認可通知書」影本



附件二-1 標準施工方法

1.構材規格

(1)屋頂板組成（由外而內）：

①第一層烤漆鋼板，厚度 0.5mm，密度 4.43kg/m^2，符合 CNS10804 之規定。

②第二層矽酸鈣板，厚度 6mm，密度 1.14g/cm^3，含水率 10%，符合 CNS13777 耐燃一級之規定。

③第三層岩棉，厚度 50mm，密度 80kg/m^3，符合 CNS3657 之規定。

④第四層矽酸鈣板，厚度 10mm，密度 1.09g/cm^3，含水率 10%，符合 CNS13777 耐燃一級之規定。

(2)雙併 C 型立柱：熱浸鍍鋅鋼板，寬度 65mm，深度 36mm，厚度 1.25mm，符合 CNS1244 之規定。

(3) C 型槽鐵小梁：熱軋槽鋼，寬度 100mm，深度 50mm，厚度 5mm，平置於地面上，四面均勻噴上防火披覆材，平均噴覆厚度 18mm。

(4)六角自攻螺絲：釘頭 ϕ 3mm，釘長 63.5mm。

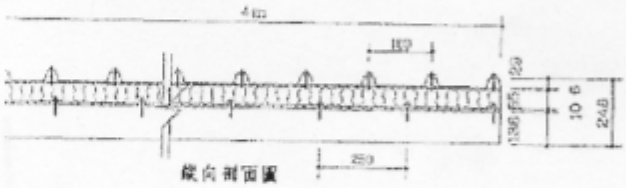
(5)十字自攻螺絲：釘頭 ϕ 8mm，釘長 25.4mm。

(6)填縫材：防火填縫膠。

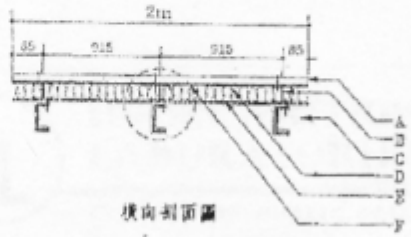
2.施工步驟

一. 施工流程

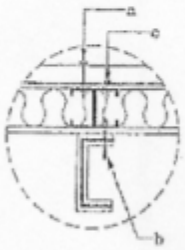
1. 噴防火披覆材 → 2. 骨架安裝 → 3. 鋪放矽酸鈣板 → 4. 安裝輕骨架 → 5. 放岩棉板 → 6. 鋪放矽酸鈣板 → 7. 安裝烤漆鋼板



纵向剖面圖



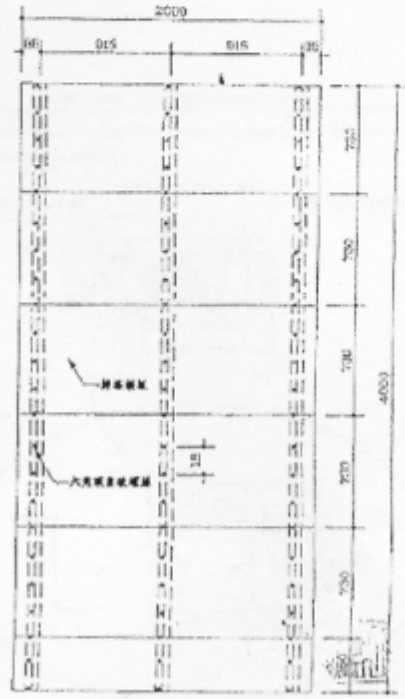
横向剖面圖



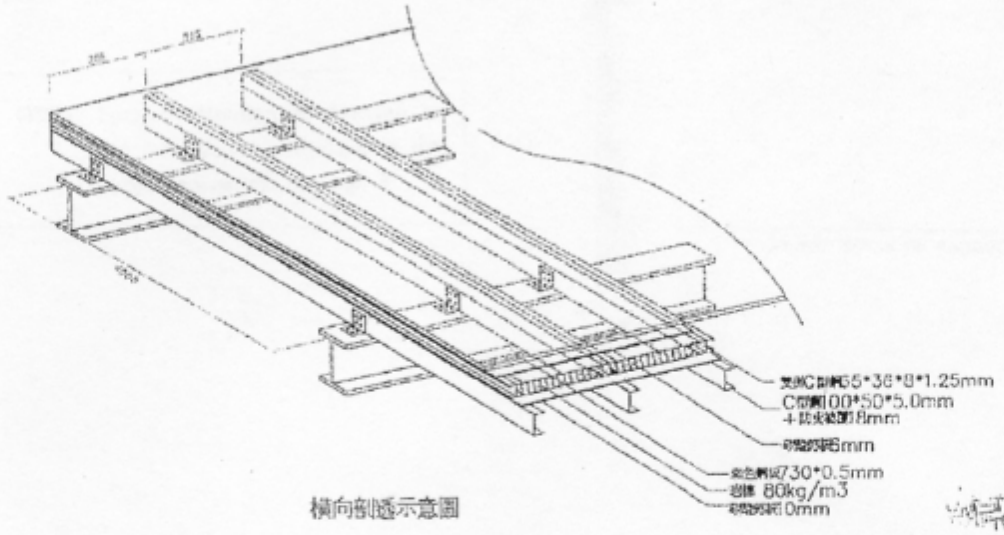
編號	名稱	尺寸(mm)	備註
A	屋面板	730×0.5	
B	支撐C型鋼	65×36×2×1.25	
C	C型鋼	100×50×5.0	最大跨度10m
D	岩棉	80kg/m3×80mm	
E	吊桿	10	下層
F	吊桿	6	上層

編號	名稱	尺寸	備註
a	六角頭自攻螺絲	2 1/2"	間距50cm
b	六角頭自攻螺絲	2 1/2"	間距25cm
c	1"十字自攻螺絲	1"	間距400mm

屋面平、剖面示意圖



平面圖



橫向剖透示意圖

附件三：被證三

為西元 1988 年 1 月之美國 UNDERWRITERS LABORATORIES 之 BUILDING MATERIALS DIRECTORY 第 767 頁

Price $13.50

UNDERWRITERS LABORATORIES INC.®

TESTING FOR PUBLIC SAFETY

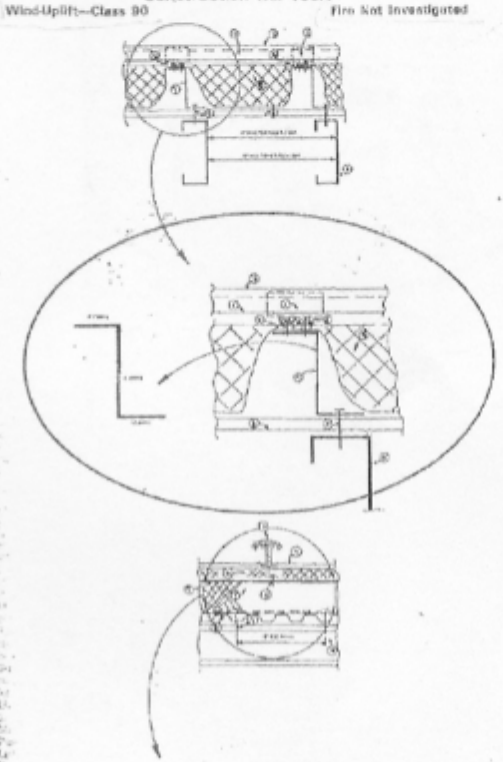
BUILDING MATERIALS DIRECTORY

January 1988

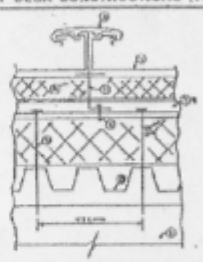
NOTE: Special attention is directed to the information contained in the second paragraph on Page 3.

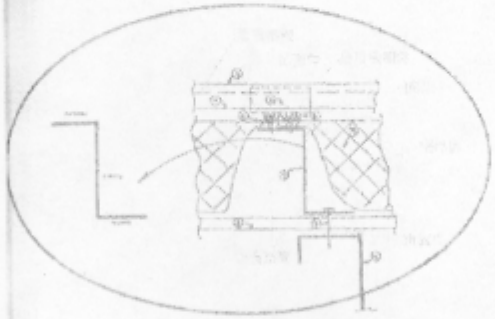
Construction No. 190A

Wind-Uplift—Class 90 Fire Not Investigated



LOOK FOR MARK ON PRODUCT





5. Metal Roof Deck Panels—No. 24 MSG minimum gauge coated steel or 0.032 in. thick aluminum. Nominal 18 in. wide with 2-1/2 in. high standing seams. Panels continuous over two or more spans. End laps to be floating type and to occur over purlins with panels overlapped 6 in. End lap to begin 2 in. from purlin web and to extend across purlin flange. A bead of mastic sealant may be used at panel end and side laps.

Fabral—"Standing Seam Roof Panels"

7. Panel Clips"—No. 18 MSG minimum gauge coated steel sections, 6 in. wide, 3-3/4 in. high when using thermal spacers (Item 7) or 2-3/4 in. high without thermal spacers. Guide holes are located in the bottom to accommodate two screw fasteners (Item 8).

Fabral—"Standing Seam Panel Clips"

8. Clip—Head at seam, 2-1/4 in. wide, 1 1/16 in. deep, fabricated from min 24 MSG coated steel when used with 24 MSG panel, min 20 MSG coated steel when used with 22 MSG or thicker steel panels or 0.032 in. Aluminum when used with aluminum panels. Factory applied sealant used with cap.

9. Fasteners (Screws)—Fasteners used for panel clip-to-subpurlin connections (Item 8 or 8A) to be No. 12-14 by 1-1/2 in. long self-drilling, self-tapping, hex-head, plated steel screws with 1/2 in. O.D. steel washers having a bonded neoprene sealing washer. Two fasteners per clip to be used. Fasteners for end lap connections to be blind rivet type identified as "FAS-10-4" or "FAS-10-8") may be used with either steel or aluminum panels. Pilot holes to be proper diameter for rivets. No. 14 by 3/4 in. long self-drilling, self-tapping, hex-head, plated steel stitch screws with a 5/8 in. O.D. steel bonded neoprene washer may be used with steel panels only. Fastening to be in a 2-1/2, 4-1/2, 4, 4-1/2, 2-1/2 in. pattern.

Fasteners used to attach both "Zee" shaped and hat-shaped sub-purlins to purlins to be No. 1/4-14 HHB self-tapping or No. 1/4-14 self-drilling, self-tapping, hex-head, plated steel, screws. Length to be minimum 3/4 in. longer than maximum depth of liner panel when used with "Zee" sub-purlins and minimum 3/4 in. longer than total maximum depth of rigid insulation (Item 9A) and liner panel (Item 7) when used with hat-section type sub-purlins. Fasteners spaced 12 in. O.C., driven into purlins.

Fasteners used to attach liner panels to purlins to be per manufacturer's instructions for type and purlins.

9A. Insulation—Compressible (Optional)—Any compressible type 4 in. maximum thickness before compression.

9A. Insulation—Rigid—(Optional)—Supplied in 4 ft wide sheets. Thickness, 1 in. minimum, 4 in. maximum. Minimum density 2.0 lb/cu ft.

9B. Thermal Spacer—(Optional)—Used over sub-purlins; polystyrene, 1 in. thick, 3-1/2 in. wide, used at all purlin panel clips.

10. Sub-Purlins—"Zee" shaped, No. 15 MSG minimum thickness steel (50,000 psi minimum yield strength). Maximum depth, 8 in., minimum flange width 1-3/4 in. Used with compressible thermal insulation.

10. Sub-Purlin—Hat-shaped, No. 15 MSG minimum thickness (50,000 psi minimum yield strength) 4-1/2 in. wide with 3/4 in. legs, 3 in. web, and 1/4 in. depth. Used with rigid insulation.

11. Liner Panel—Minimum thickness No. 26 MSG coated steel (33,000 psi minimum yield strength, or 0.032 in. thick aluminum, (Type 3004 alloy, minimum yield strength 30,000 psi). Maximum depth 1/2 in., maximum pitch 6 in. Fabricated to various profiles.

12. Purlins—No. 18 MSG minimum gauge steel (50,000 psi, Minimum yield strength).

13. Lateral Bracing—Not Shown—As Required.

Refer to General Information, Roof Deck Constructions (Building Materials Directory) for items not evaluated.

Showing the UL Classification Marking