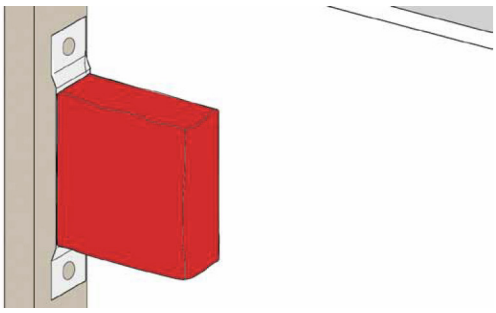
Hilti CP 617 Firestop Putty Pad

Submission Folder

Hilti (HK) | askHilti 工程師技術支援平台 ask.hilti.com.hk | 香港客戶熱線 +852 8228 8118 澳門客戶熱線(免費) 00800 8228 8118 | 香港門市：大角咀洋松街1號形品星寓地下2號舖 澳門門市：澳門布魯塞爾街70號建興龍廣場地下W座地舖 | 電郵：hksales@hilti.com 傳真：+852 2954 1751

Firestop putty pad CP 617



APPLICATIONS

- Can be used for commercial and residential applications
- Accoustically rated drywall - sound transmission classification 59 according to ASTM E90-97 (based on specific construction)
- General gypsum wall assemblies with wood or metal studs
- Socket Box, lift call button, lift indicator panel

ADVANTAGES

- Excellent adhesion to gypsum, metal and plastic
- No oil migration, putty remains flexible over time
- Pad can be moulded by hand without leaving residue on the hands
- Quick and simple to install
- Not electrically conductive

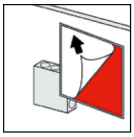
Technical data	
Colour	Red
Electrical resistance data	Non-conductive
Acoustic insulation	Yes
Intumescent	Yes
Application temperature range	0 - 40 °C
Temperature resistance range	-20 - 60 °C
Storage and transportation	-5 - 40 °C
Acoustic index (Tested to DIN EN20140)	64 dB

Acoustic

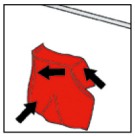
Low VOC

Mould & Mildew

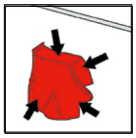
Application Procedure



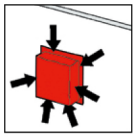
1. Remove label from one side of CP 617



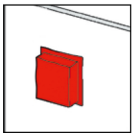
2. Adhere CP 617 to application



3. Reshape CP 617 fit around box



4. Press CP 617 to all sides of application



5. Remove other side of label

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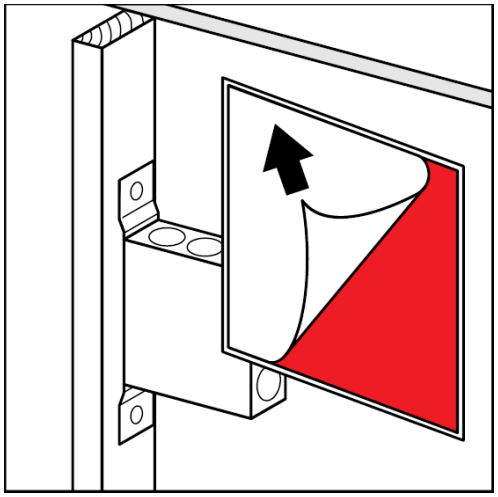
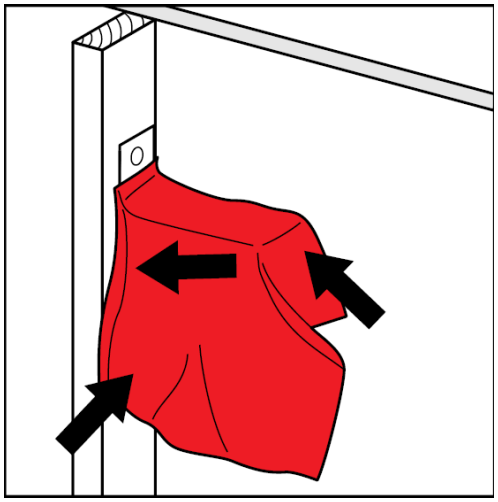
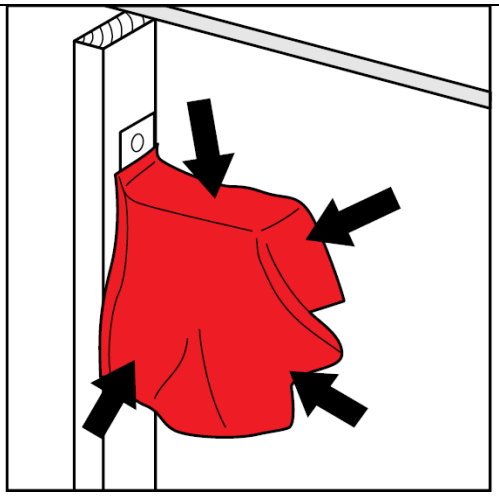
Ordering designation	Package contents	Sales pack quantity	Item number
CP 617 6"x7"	1x Firestop putty pad CP 617 6"x7"	20 pc	**309760**
CP 617 XL 9"x9"	1x Firestop putty pad CP XL 617 9"x9"	20 pc	**373387**

Please visit Hilti website for the latest item numbers and related products

Subject: **Method Statement of CP 617.**
Material: CP 617 Firestop Putty Pad
Accessory: Nil

Setting Operation		
1	Remove the label from one side of the pad. For a 1 to 2 hour fire rating, one CP 617 pad is required.	
2	Adhere the pad to the side of the box, overlapping the stud and all the edges of the box. – When drywall is installed: fix the pad into the gap between the electrical cabinet and gypsum board slightly overlapping the inner wall board surface. – When drywall will be installed later: overlap the front edge of the electrical cabinet so that CP 617 will be compressed around the edges of box as gypsum board is installed.	
3	Reshape CP 617 to fit around conduit or cables	

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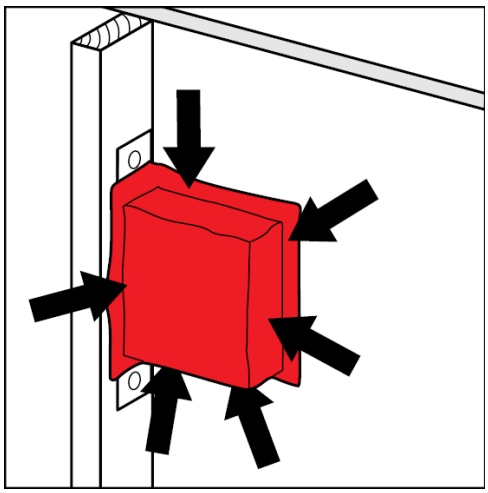
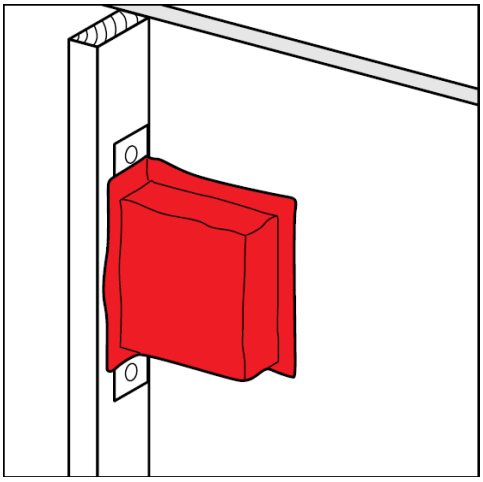
www.hilti.com.hk

4	Press CP 617 to all sides of the electrical box. Trim excess at the corners and apply to the conduit fittings connected to the box.	
5	Remove the other side of label. To help preventing the passage of cold smoke, CP 617 may optionally be placed into the inside of the electrical conduit fittings.	

Safety precautions:

- Never use in areas underwater
- Before handling, read the product Material Safety Data Sheet and product label for detailed use and health information.
- Wear suitable gloves and eye protection.
- Keep out of the reach of children.

檢測報告

No. 2019-FRT265

試件名稱： Hilti CP 617 Intumescent Acoustic Putty Pad (with Drywall System)

報告發送致送檢單位：

送檢單位： Hilti (Hong Kong) Limited

報告日期： 2019 年 12 月 17 日
複檢日期： 2022 年 12 月 17 日

檢測報告

1. 根據澳門發展及質量研究所發出的檢測報告編號：TEED-2019-FRT-265，澳門發展及質量研究所於 2019 年 11 月 30 日依據 BS 476- 22：1987 BS 476-20：1987《建築材料及構件防火性能試驗第 20 部分：建築材料耐火測定(一般原則)》，對 Hilti (Hong Kong) Limited 送檢的防火填充物料連間牆系統進行耐火性能檢測，經檢測後，該防火填充物料連間牆系統檢測結果：

耐火隔熱性達到 235 分鐘，耐火完整性達到 240 分鐘。

2. 試件資料如下：

試件名稱	Hilti CP 617 Intumescent Acoustic Putty Pad (with Drywall System)
送檢單位名稱	Hilti (Hong Kong) Limited
試件製造商	Hilti
試件產地	美國
檢測日期	2019 年 11 月 30 日

審核，

譚立武教授
澳門大學機電工程系教授
澳門發展及質量研究所理事會理事長

澳 門 發 展 及 質 量 研 究 所
Instituto para o Desenvolvimento e Qualidade, Macau
Institute for the Development and Quality, Macau

檢測報告

TEED-2019-FRT-265

試件名稱： Hilti CP 617 Intumescent Acoustic Putty Pad (with Drywall System)

報告發送致送檢單位：

送檢單位： Hilti (Hong Kong) Limited

701-704A & 708A&B, 7/F, Tower A,
Kwun Tong, Hong Kong

報告日期： 2019 年 12 月 17 日

澳門發展及質量研究所

澳門 氹仔 徐日昇寅公馬路 澳門發展及質量研究所
Instituto para o Desenvolvimento e Qualidade, Macau, Avenida Padre Tomás Pereira, S.N., Taipa, Macau
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關注事項

1. 檢測報告未加蓋檢測單位"檢測專用章"無效；
2. 檢測報告無檢測人員，審核，批准人簽名無效；
3. 報告塗改無效；
4. 未經本實驗室書面同意，不得部分複製檢測報告（完整複製除外）；
5. 複印檢測報告未重新加蓋 "檢測專用章"無效；
6. 檢測報告僅對送檢試件負責。
7. 對檢測報告若有異議，應於收到報告之日起十五日內向本實驗室提出。
8. 有關試件的相關信息由送檢單位提供，本實驗室並沒有求證相關信息及並不負責。

地址：澳門氹仔徐日昇寅公馬路澳門發展及質量研究所
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檢測報告

試件名稱	Hilti CP 617 Intumescent Acoustic Putty Pad (with Drywall System)		
送檢單位名稱	Hilti (Hong Kong) Limited		
收樣編號	FS-191130-01		
試件特徵描述	試件外觀：防火填充物料連石膏板防火間牆，外觀完好 試件數量：1 件		
試件型號規格	防火填充物料：CP 617 Intumescent Acoustic Putty Pad 尺寸：6" × 7" 厚度：3mm Expansion temperature：104°C to 121°C Socket Box 尺寸：85mm (H) × 85mm (W) 間牆系統尺寸：3040mm (H) × 3070 mm (W) 間牆系統厚度：150mm (Thk.)		
試件製造商	Hilti	試件產地	美國
送樣日期	2019 年 11 月 25 日		
檢測項目	防火填充物料連間牆系統耐火性能		
檢測依據	BS 476- 20：1987《建築材料及構件防火性能試驗第 20 部分：建築材料耐火測定(一般原則)》		
檢測日期	2019 年 11 月 30 日		
檢測結論	依據 BS 476- 20：1987《建築材料及構件防火性能試驗第 20 部分：建築材料耐火測定(一般原則)》，經檢測，該防火填充物料連間牆系統檢測結果：耐火隔熱性達到 235 分鐘，耐火完整性達到 240 分鐘。 簽發日期：2019 年 12 月 17 日		
備註	1. 送檢單位附上試件圖紙 (見附錄 A 參考圖 1-圖 5) 2. 主要檢測設備：立式耐火測試爐體 (TEED-FE-002)		

報告編寫員：孫翔　　審核：林振雄

批准：

黃傑勇(授權簽字人)

澳門 氹仔 徐日昇寅公馬路 澳門發展及質量研究所
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1 檢測目的

1.1 根據英國標準 BS 476- 20：1987《建築材料及構件防火性能試驗第 20 部分：建築材料耐火測定(一般原則)》，檢測 1 件防火填充物料連間牆系統之耐火性能。

2 引言

2.1 根據送檢單位的要求，防火填充物料連間牆系統之耐火性能檢測需滿足英國標準 BS 476- 20：1987《建築材料及構件防火性能試驗第 20 部分：建築材料耐火測定(一般原則)》之要求。

2.2 試件由送檢單位在本實驗室於 2019 年 11 月 25 日安裝， 並於 2019 年 11 月 30 日進行檢測。

2.3 試件之向火面及背火面由送檢單位指定。

3 試件構造

3.1 測試試件主要由防火填充物料(CP617)、石膏板、龍骨、岩棉及 Socket Box 等組成，試件間牆系統向火面及背火面分別有兩層 12.5mm(厚)的 Promat Gypsum Board，中間填充兩層 50mm 厚(密度：60kg/m^3)的岩棉，間牆系統以 C 型龍骨固定。一個 85mm (H) × 85mm (W) × 3mm (Thk.)的電製箱安裝在間牆系統向火面的正中心位置的挖空位置，並於 Socket Box 背部貼上 3mm(厚)的 CP 617 Intumescent Acoustic Putty Pad (6" × 7")。試件之外觀及組成部份可參考送檢單位所提供之圖 1 至圖 5。詳細圖則及試件組成部份可參照附錄 A。

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3.2 本報告所繪製之圖則及組成部份是根據送檢單位所提供的資料而作。試件之厚度、外觀及組成部件已由本實驗室檢測員檢查。

3.3 試件由送檢單位送樣及安裝於檢測框上進行測試，該檢測框由本實驗室提供。

3.4 試件在檢測前數天內安裝完畢。

4 測試設備及程序

4.1 測試設備按照英國標準 BS476 第 20 部份：1987 的要求設置。

4.2 爐體內部之平均溫度值由 9 個平均分佈於爐內的熱電偶取得，根據英國標準 BS476：第 20 部分：1987 所指定之溫度時間關係而操控升溫。溫度時間記錄圖見附錄 B 之圖 8。

4.3 爐體內設有壓力計以監察爐體壓力。壓力時間記錄圖見附錄 B 之圖 10。

4.4 試件背火面設有 12 個熱電偶以作監察溫度之用，熱電偶分佈位置見附錄 A 之圖 6。試件背火面所有熱電偶均用作判斷試件的耐火隔熱性。

4.5 測試過程中，棉墊及縫隙測量探棒用作評估試件的耐火完整性。

4.6 測試過程中，應記錄試件的變形情況和試件出現全部或部分毀壞時的時間。試件背火面如有火焰並持續 10 秒或以上，以及有煙散發出的情況也應記錄。試件的變形情況可參考附錄 B 之表 4。

4.7 試件背火面及試件向火面於測試前後需拍照記錄。測試過程中，需拍照及用攝錄機記錄試件背火面情況以作日後評估之用。

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5 測試數據及資料

5.1 測試過程所記錄之數據可參考附錄 B，記錄內容如下：

5.1.1 實際爐溫按照英國標準 BS476：第 20 部分：1987 所指定溫度時間關係圖。

5.1.2 由熱電偶所記錄試件背火面的溫度。

5.2 在測試過程中，試件的實驗狀況已詳細記錄於附錄 C 中以供參考。

5.3 有關試件圖片見附錄 D。

5.4 試件檢測開始時周圍環境溫度為 23°C。

5.5 在送檢單位的同意下在 240 分鐘終止本試件整個測試。

6 耐火極限之評定條件

6.1 按英國標準 BS476 第 20 部份：1987 之標準，試件之耐火性能將會根據以下之條件作評定：

6.1.1 耐火完整性 – 當測試過程中，i) 在試件之背火面進行棉墊點燃測試；ii) 如試件背火面出現較大的裂縫，用 6mm 及 25mm 直徑之量測棒來量測裂縫之寬和深度；iii) 試件背火面出現持續的火焰。如棉墊沒有被試件背火面之高溫點燃、試件背火面未出現能讓量測棒插入貫通之裂縫、試件背火面未有出現達到 10s 或以上持續的火焰，試件之耐火完整性才被判斷為合格。

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6.1.2 耐火隔熱性 – 當測試過程中，試件發生以下任一限定情況，均判斷試件失去耐火隔熱性，i) 試件背火面最高平均溫度升幅超過試件背火面初始溫度 140˚C；ii) 試件背火面最高單點溫度升幅超過試件背火面初始溫度 180˚C；iii) 試件之耐火完整性失效。

7 結論

7.1 根據英國標準 BS476 第 20 部分：1987 的準則 – 耐火完整性及耐火隔熱性，評估試件的耐火性能測試結果如下：

耐火隔熱性	**235 分鐘**
耐火完整性	**240 分鐘**

8 限制說明

8.1 本測試結果僅反映特定測試條件下，建築構件之試驗情況。此測試結果並非判斷試件在實際應用時防火特性的唯一標準，同時亦不反映試件在實際火場上所能表現的防火性能。

8.2 本試驗結果只反映與報告相同之物料、結構、厚度及安裝方法之系統，如將此試驗結果應用於試件組合型式不同的情況時，應按照實際設計而作出相應之評估。

8.3 檢測報告僅對送檢試件負責。

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附錄 A

試件構造說明及附圖

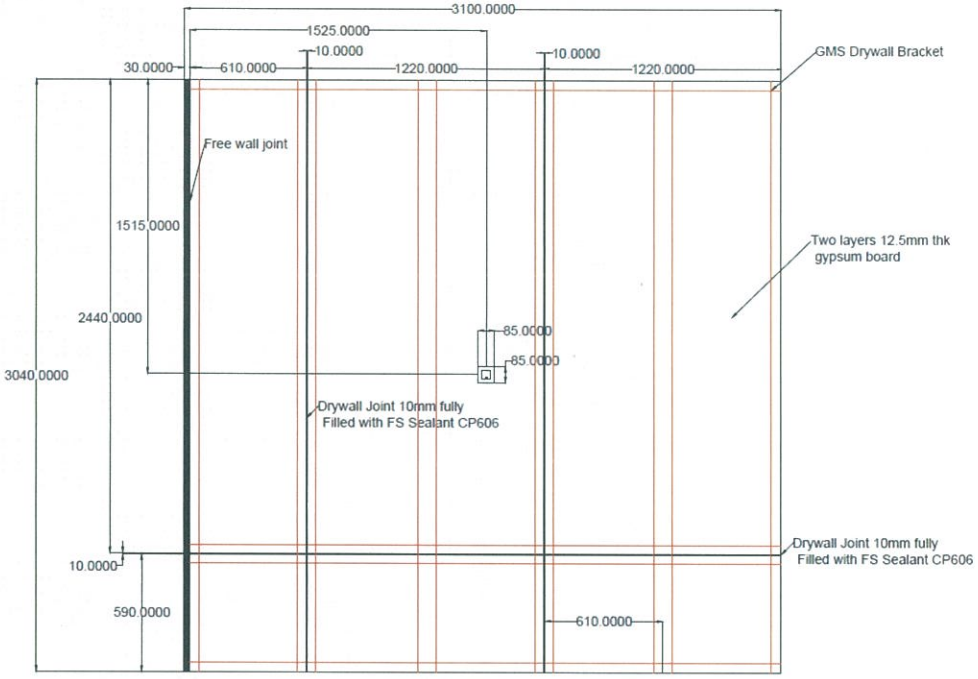

圖 1　測試試件之向火面圖

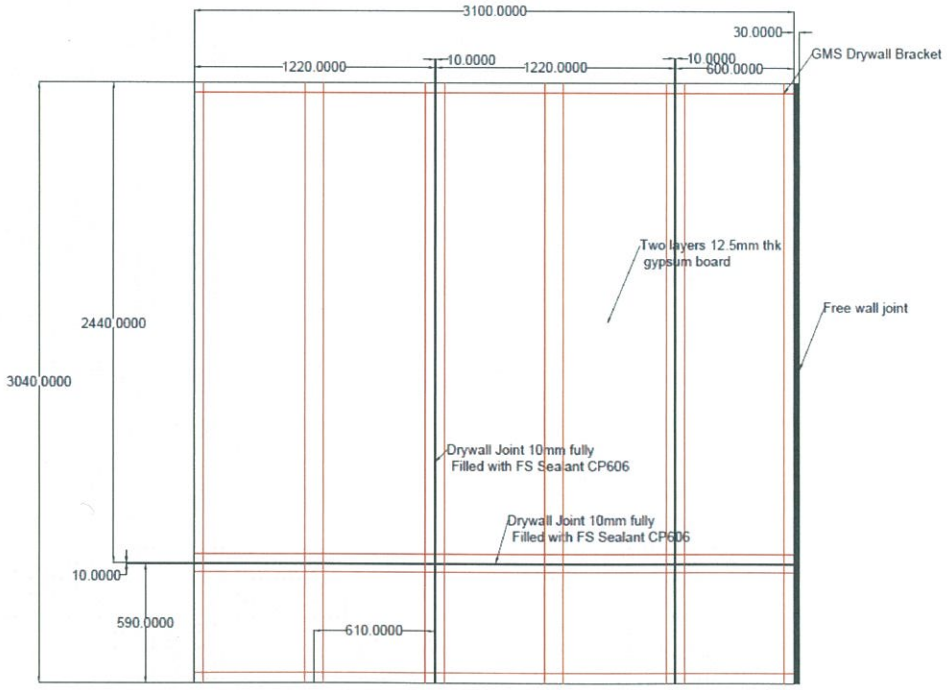

圖 2　測試試件之背火面圖

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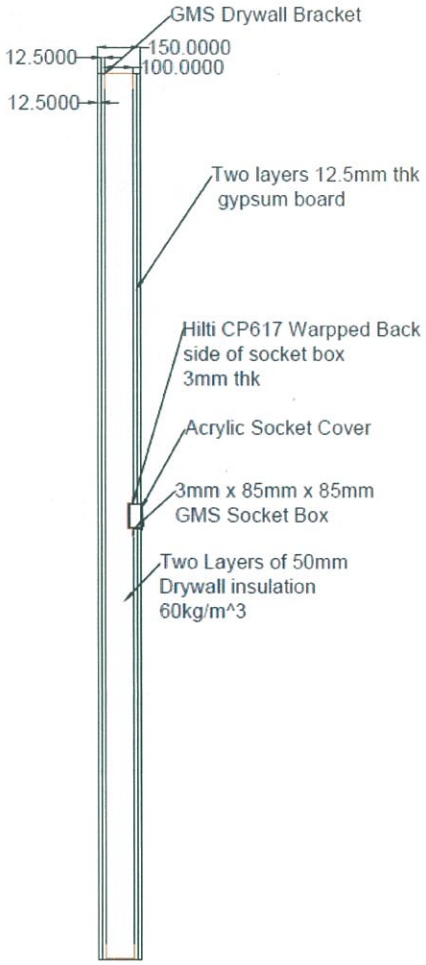

圖 3　測試試件之側視圖

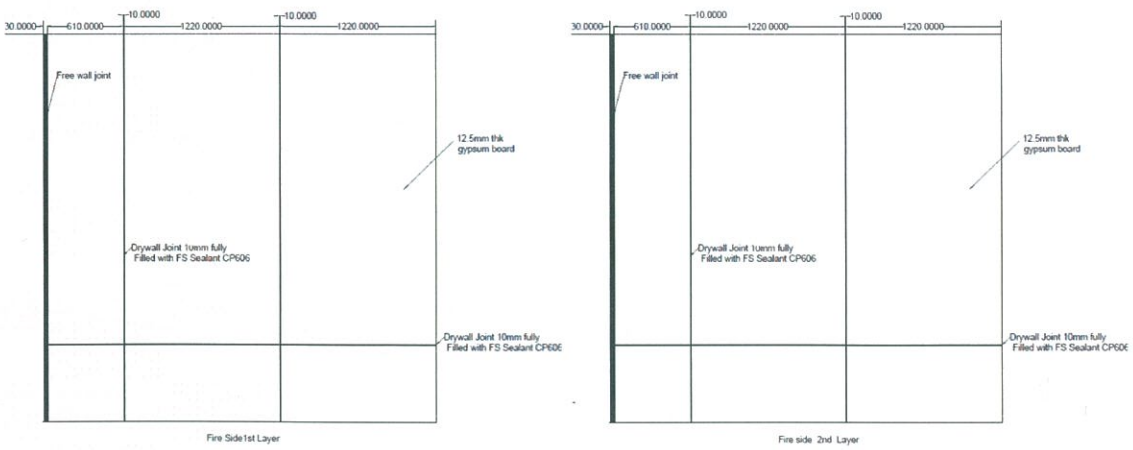

圖 4　測試試件之向火面石膏板拼接圖

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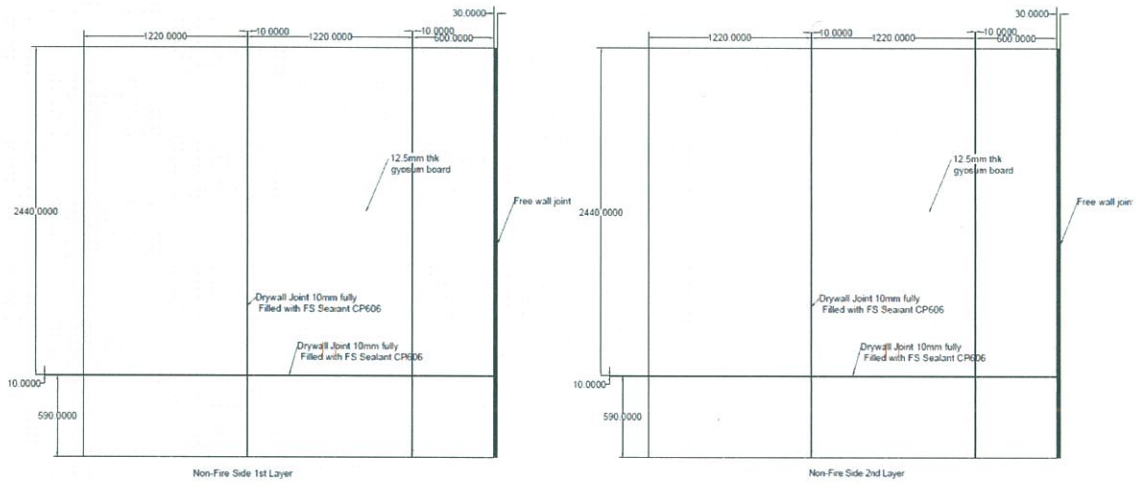

圖 5　測試試件之背火面石膏板拼接圖

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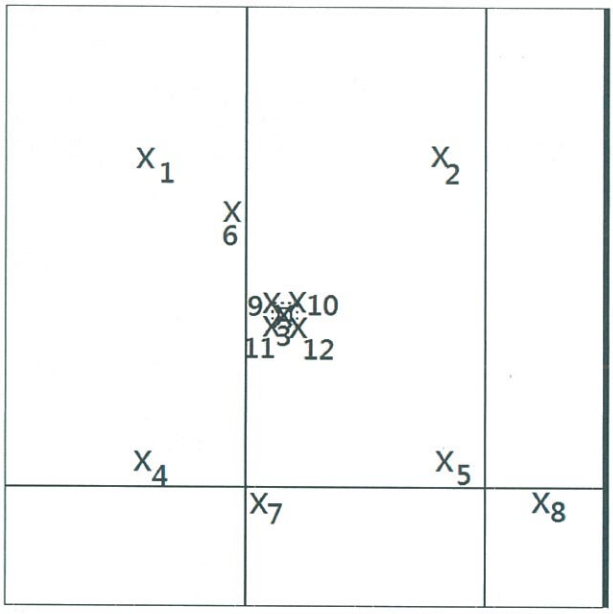
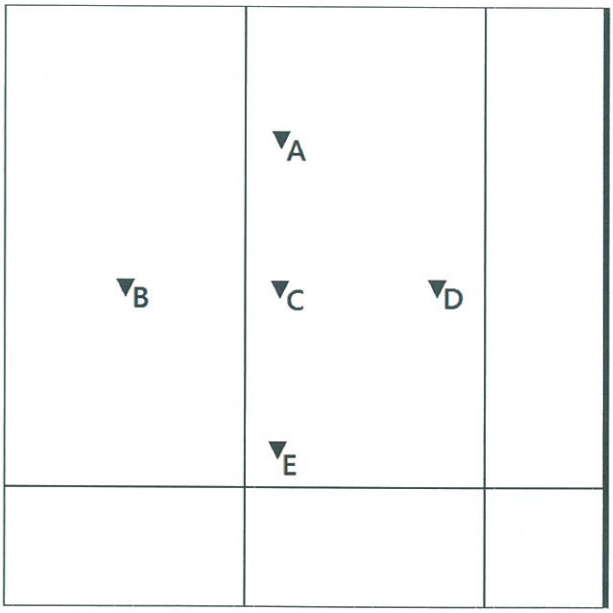


X: 熱電偶

圖 6　測試試件之熱電偶位置圖



▼: 變形量測量點

圖 7　測試試件之變形量位置圖

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試件組件資料

(參照附錄 A 之圖 1 到圖 5)

(除非有特別指定，否則全部數值都為理論值)

(全部資料和數值由送檢單位 Hilti (Hong Kong) Limited 提供，本實驗室並沒有求證有關數值)

表 1　試件組件資料列表

項目	組件	描述
1.	CP 617 Intumescent Acoustic Putty Pad	品牌：Hilti 產地：美國 型號：CP 617 尺寸：6" × 7" 厚度：3mm Expansion temperature：104°C to 121°C
2.	Socket Box	尺寸：85mm (H) × 85mm (W) 材質：GMS Socket Box with Acrylic Socket Cover
3.	間牆系統	尺寸：3040mm (H) × 3070 mm (W) 厚度：150mm (Thk.) 由 100mm 厚 C 型龍骨，填充兩層 50mm(厚)岩棉及向火面及背火面各 2 層 12.5mm(厚) Gypsum Board 所組成
4.	C 型龍骨	產地：中國 尺寸：3000mm × 100mm × 50mm (0.6mm thick) 材質：Gavanlized Metal Steel
5.	岩棉	品牌：ROCKWOOL 產地：UK 厚度：50mm

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		密度：60kg/m^3 材質：Mineral Wool
6.	Gypsum Board	品牌：Promat 產地：UK 厚度：12.5mm 密度：870kg/m^3 材質：Calcium silicate
7.	Sealant	品牌：Hilti 型號：CP606

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附錄 B

測試數據

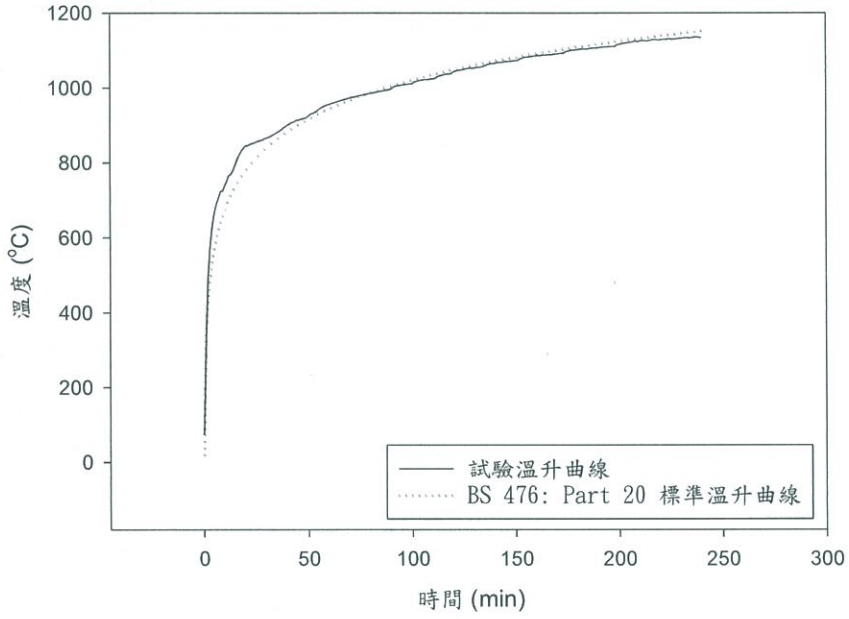

圖 8　平均爐溫與標準(溫度/時間)曲線圖

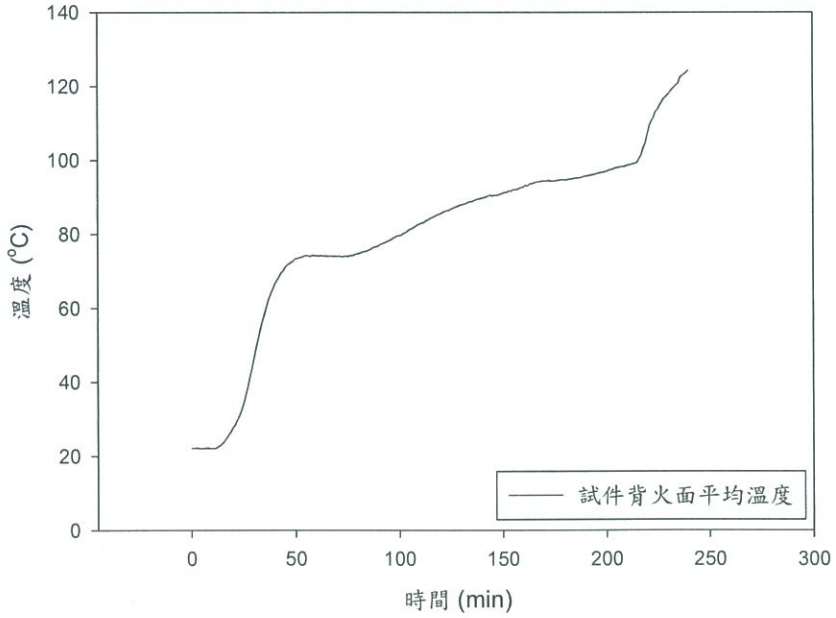

圖 9　試件背火面平均溫度/時間曲線圖

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表 2　平均爐溫與標準溫度之比較

時間 (min)	標準爐內溫度(°C)	爐內平均溫度(°C)	標準允許公差 (%)	實際允差 (%)
0	20.00	73.22		
1	349.21	325.83		
2	444.50	491.27		
3	502.29	580.16		
4	543.89	629.64		
5	576.41	665.90		
6	603.12	690.33		
7	625.78	706.27		
8	645.46	723.34		
9	662.85	724.36		
10	678.43	739.09	±15	+12.34
12	705.44	765.40		
14	728.31	780.76		
16	748.15	809.26		
18	765.67	831.29		
20	781.35	845.42		
22	795.55	848.80		
24	808.52	852.28		
26	820.45	857.36		
28	831.50	860.62		
30	841.80	865.77	±10	+7.94
35	864.80	880.53		
40	884.74	900.07		
45	902.34	913.89		
50	918.08	924.88		
55	932.33	943.01		
60	945.34	955.53		
65	957.31	965.07		
70	968.39	973.60		
75	978.71	979.21		
80	988.37	985.29		
85	997.44	991.36		
90	1005.99	997.96		
95	1014.08	1007.57		
100	1021.75	1011.11		
105	1029.05	1020.98		
110	1036.02	1024.33		
115	1042.67	1034.60		
120	1049.04	1042.23		

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表 2　平均爐溫與標準溫度之比較 (續)

時間 (min)	標準爐內溫度(°C)	爐內平均溫度(°C)	標準允許公差 (%)	實際允差 (%)
130	1061.02	1052.90		
140	1072.11	1065.67		
150	1082.44	1072.37		
160	1092.10	1085.88		
170	1101.18	1090.74		
180	1109.74	1102.02		
190	1117.83	1107.48		
200	1125.52	1116.06		
210	1132.82	1124.94		
220	1139.79	1128.17		
230	1146.44	1132.33		
240	1152.82	1134.41	±5	+0.29

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表 3　試件背火面單點溫度及平均溫度

時間 (min)	單點熱電偶溫度(°C)												平均溫度 (°C)
	1	2	3	4	5	6	7	8	9	10	11	12	
0	22.3	22.0	22.1	22.6	21.8	22.9	22.5	22.3	22.3	22.4	22.5	22.5	22.2
5	22.3	22.0	21.8	22.3	21.9	22.8	22.2	22.2	22.2	22.3	22.3	22.4	22.1
10	22.3	22.2	21.6	22.5	22.1	22.9	22.2	22.3	22.3	22.3	22.3	22.5	22.1
15	29.0	22.2	21.7	22.5	22.1	23.2	22.7	22.3	22.5	22.4	22.6	22.7	23.5
20	45.6	23.0	23.2	23.7	23.0	26.3	24.7	23.5	24.1	23.7	24.5	24.1	27.7
25	57.9	28.0	27.2	30.9	27.1	37.8	36.5	34.1	28.5	28.1	29.0	28.5	34.2
30	69.2	42.2	34.4	47.6	39.3	53.3	54.3	50.9	36.4	36.8	36.4	36.0	46.5
35	76.2	57.5	42.3	62.5	53.9	65.1	66.2	63.1	44.3	45.8	43.6	44.4	58.5
40	79.8	67.9	49.3	71.0	65.2	72.3	72.2	70.6	50.7	53.0	49.9	51.8	66.6
45	80.9	73.9	55.0	74.8	70.6	75.3	73.9	73.0	55.2	57.9	54.7	57.1	71.0
50	80.5	76.2	59.5	76.5	74.2	76.3	74.4	74.3	59.1	62.2	58.9	61.6	73.4
55	79.4	76.6	63.9	76.3	75.3	76.7	74.6	74.9	62.7	65.7	62.5	65.2	74.3
60	77.6	76.0	67.0	75.7	74.9	76.1	74.3	74.1	65.3	68.3	65.0	68.0	74.2
65	76.1	74.9	69.8	75.3	74.3	75.9	74.3	73.6	67.7	70.6	67.5	70.3	74.1
70	75.0	74.3	72.5	74.6	73.8	76.0	74.8	73.4	69.9	73.0	69.6	72.6	74.0
75	74.5	73.0	74.8	74.6	73.0	76.3	75.0	73.5	71.9	75.2	71.5	74.8	74.0
80	74.8	72.9	77.5	75.4	73.1	77.1	75.6	74.1	74.3	77.7	73.7	77.2	74.7
85	75.4	73.0	80.2	76.3	73.4	78.7	77.0	75.2	76.7	80.1	75.8	79.4	75.7
90	76.3	73.6	82.9	78.1	74.1	80.6	77.8	76.2	79.2	82.6	77.9	81.9	77.0
95	77.5	74.8	85.1	79.0	75.0	82.8	78.8	77.3	81.7	84.9	79.7	84.3	78.3
100	78.7	76.3	87.4	79.7	75.9	84.5	79.8	78.3	82.6	86.9	81.1	86.3	79.6
105	80.2	77.6	89.8	81.3	77.5	86.0	81.9	80.3	85.0	88.8	83.9	88.4	81.3
110	81.6	79.5	92.0	82.1	78.7	87.5	84.0	81.6	87.6	90.4	86.1	90.3	82.8
115	83.1	81.4	93.2	83.4	80.0	88.8	86.1	82.5	90.0	90.5	88.5	91.7	84.2
120	84.8	83.1	94.4	84.5	81.2	90.0	87.8	83.8	91.5	91.5	90.7	93.0	85.6
130	88.9	86.0	94.9	87.0	82.9	92.7	91.4	86.7	92.8	92.8	95.2	94.5	87.9
140	92.2	88.9	94.6	89.1	83.9	94.6	92.2	87.9	92.8	92.8	96.2	95.0	89.7
150	93.8	91.6	91.8	92.8	85.2	96.7	93.3	89.6	93.0	93.3	96.7	95.4	91.0
160	94.4	93.2	92.4	95.1	88.5	99.4	94.8	91.3	93.3	94.1	97.4	96.0	92.7
170	94.6	93.6	94.2	95.3	94.4	101.0	96.2	93.5	94.2	95.2	97.9	97.2	94.4
180	94.5	93.8	95.3	95.2	94.8	101.2	97.0	94.6	94.9	96.7	98.9	98.5	94.7

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表 3　試件背火面單點溫度及平均溫度 (續)

時間 (min)	單點熱電偶溫度(°C)												平均溫度 (°C)
	1	2	3	4	5	6	7	8	9	10	11	12	
190	95.4	94.0	97.8	95.6	95.8	101.4	100.6	98.0	97.1	98.7	100.8	101.1	95.7
200	97.4	95.6	99.9	96.9	95.3	102.1	101.2	99.4	98.2	98.7	102.4	102.3	97.0
210	99.3	97.4	100.6	99.0	96.7	106.4	101.7	100.1	99.1	99.9	102.9	102.6	98.6
220	136.1	98.6	101.2	99.8	98.2	125.9	101.4	100.1	99.6	100.4	102.0	103.2	106.8
230	186.4	99.6	101.7	100.5	100.4	137.7	101.2	100.2	100.1	101.0	101.5	105.1	117.7
236	**209.2***	99.4	101.8	100.7	100.8	143.1	101.1	100.2	99.7	100.9	101.1	107.0	122.4
240	218.1	99.9	101.8	100.9	101.0	146.9	101.1	100.2	99.9	101.0	101.0	109.9	124.3

*** 試件背火面熱電偶單點溫度超溫**

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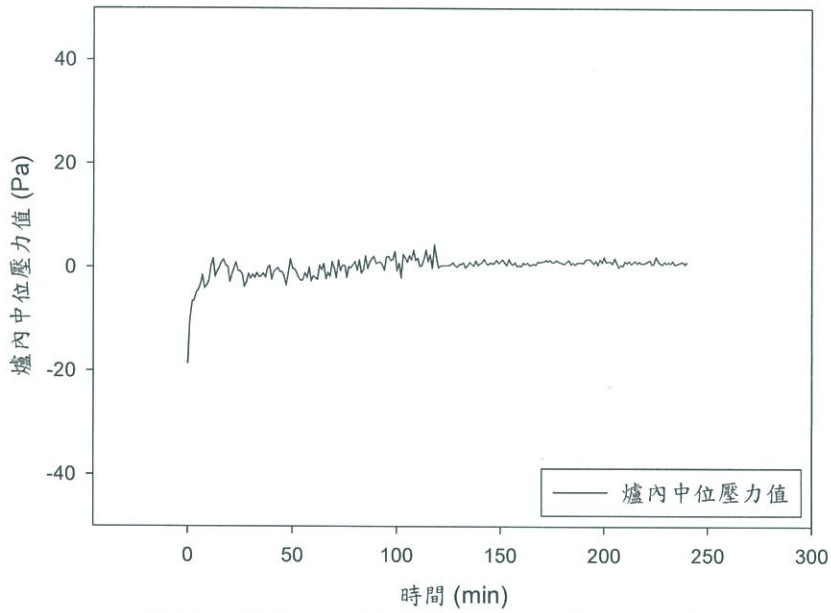

圖 10　爐內中位值壓力(壓力/時間)曲線圖

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表 4　試件背火面變型量

位置 / 時間 (min)	變形量 (mm)				
	A	B	C	D	E
0	0	0	0	0	0
10	5	5	5	5	0
20	10	0	5	5	0
30	10	5	15	5	0
40	10	10	10	15	10
50	20	10	15	10	15
60	20	15	20	20	15
70	25	15	25	20	15
80	25	15	25	20	15
90	25	15	25	20	15
100	25	15	25	20	15
110	25	15	25	20	15
120	30	15	20	20	20
130	30	15	20	20	20
140	30	15	20	20	20
150	30	15	20	20	20
160	30	15	20	20	20
170	30	15	20	20	20
180	30	15	20	20	20
190	25	10	20	20	20
200	25	10	20	20	15
210	25	10	15	15	15
220	25	10	15	15	15
230	20	5	15	10	15
240	10	5	15	10	15

注：“+”代表向內爐內凹陷，“-”代表向爐外凸出

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附錄 C
觀察情況

表 5　測試過程中，觀察本試件情況如下

時間 (小時:分鐘)	事件
-0:01	攝錄機、監察和操控儀器啓動。
0:00	開啓石油氣閥，測試開始。周圍環境溫度為 23°C。
0:15	試件背火面沒有明顯變化。
0:30	試件背火面底部邊縫位置開始冒煙。
0:45	試件背火面沒有明顯變化。
1:00	試件背火面沒有明顯變化。 試件之耐火完整性及耐火隔熱性仍能符合標準。
1:15	試件背火面沒有明顯變化。
1:30	試件背火面沒有明顯變化。
1:45	試件背火面沒有明顯變化。
2:00	試件背火面沒有明顯變化。 試件之耐火完整性及耐火隔熱性仍能符合標準。
2:15	試件背火面沒有明顯變化。
2:30	試件背火面沒有明顯變化。
2:45	試件背火面沒有明顯變化。
3:00	試件背火面沒有明顯變化。 試件之耐火完整性及耐火隔熱性仍能符合標準。
3:10	試件背火面板縫的固定鏍絲位置變黑。
3:15	試件背火面沒有明顯變化。
3:30	試件背火面沒有明顯變化。
3:45	試件背火面沒有明顯變化。
3:56	**試件背火面熱電偶 TC1 單點溫度達到 209.2°C，試件之耐火隔熱性能失效。**
4:00	試件背火面沒有明顯變化，在送檢單位同意情況下，測試結束。 試件之耐火完整性仍能符合標準。
備註	*背火面結構仍完整(見圖 28)*

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附錄 D

圖片

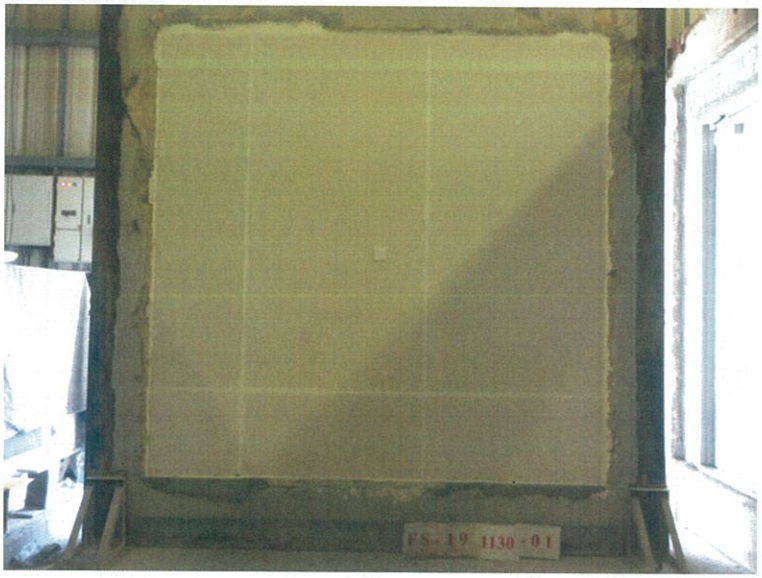

圖 11　測試前試件向火面

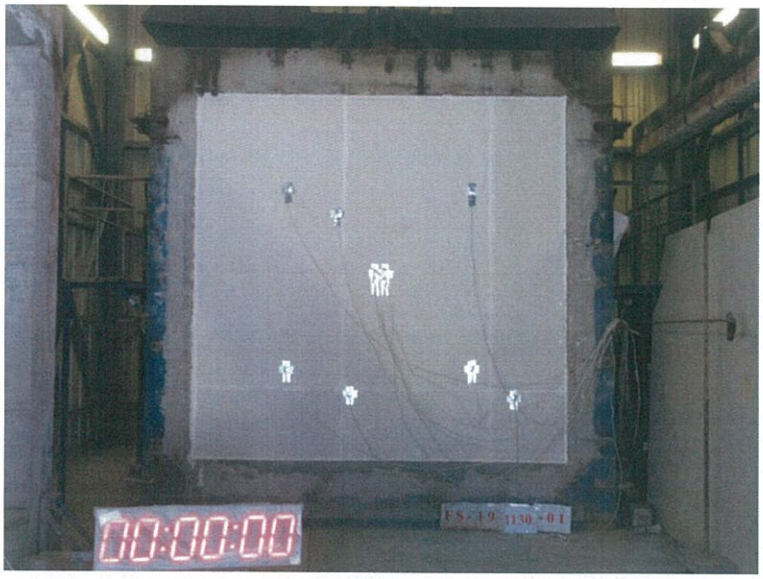

圖 12　測試前試件背火面

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Instituto para o Desenvolvimento e Qualidade, Macau, Avenida Padre Tomás Pereira, S.N., Taipa, Macau
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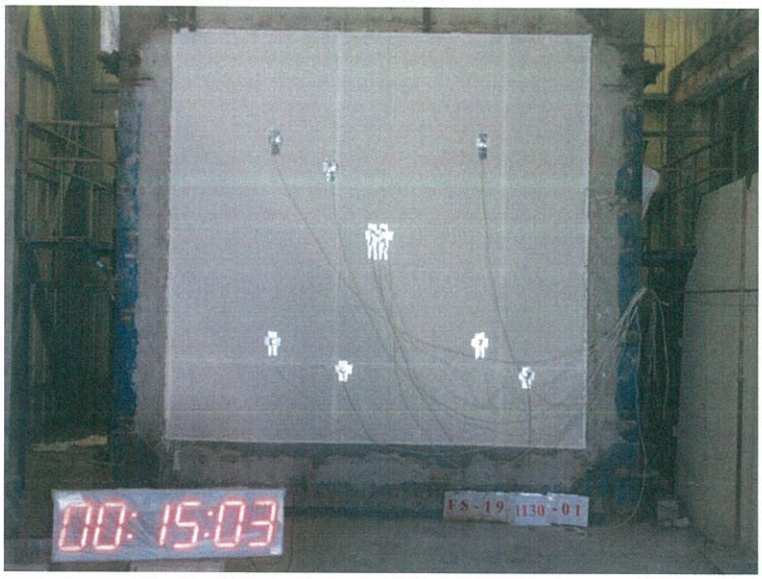

圖 13　測試 15min 後試件背火面

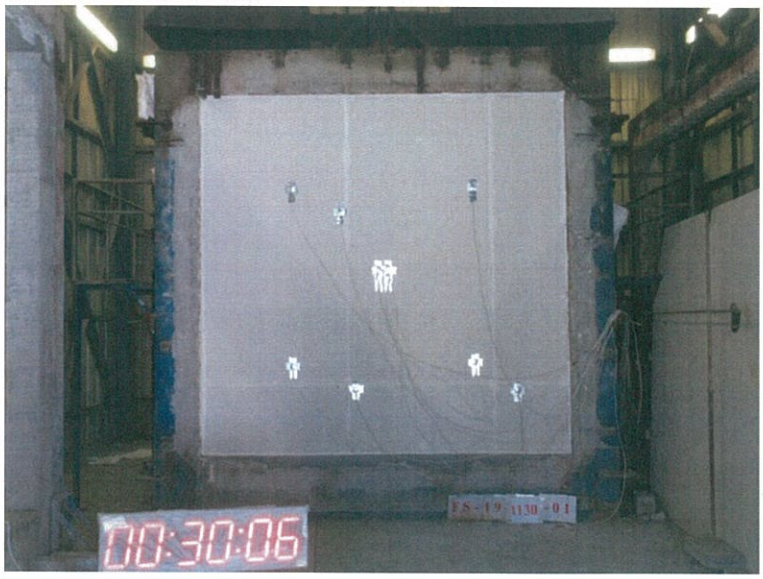

圖 14　測試 30min 後試件背火面

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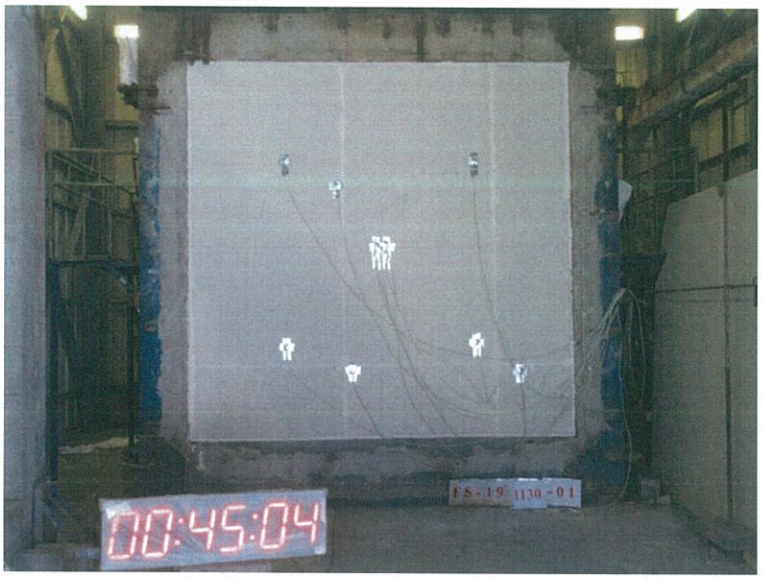

圖 15　測試 45min 後試件背火面

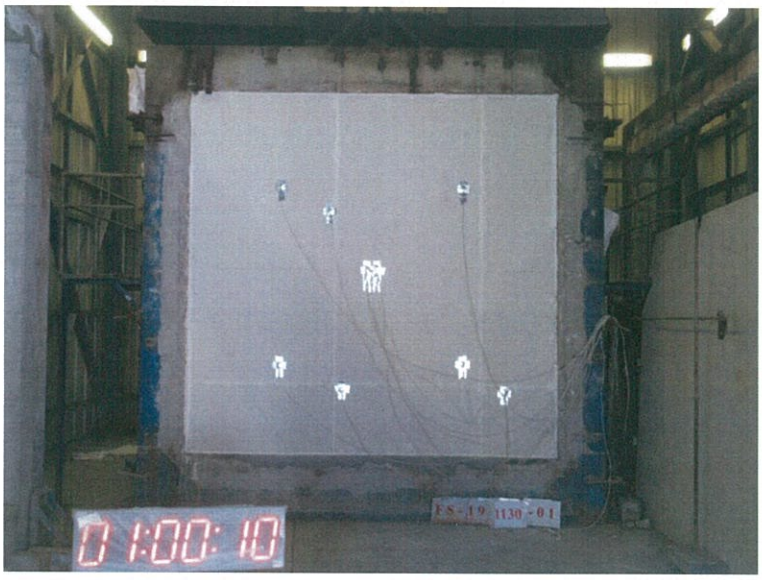

圖 16　測試 60min 後試件背火面

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Instituto para o Desenvolvimento e Qualidade, Macau, Avenida Padre Tomás Pereira, S.N., Taipa, Macau
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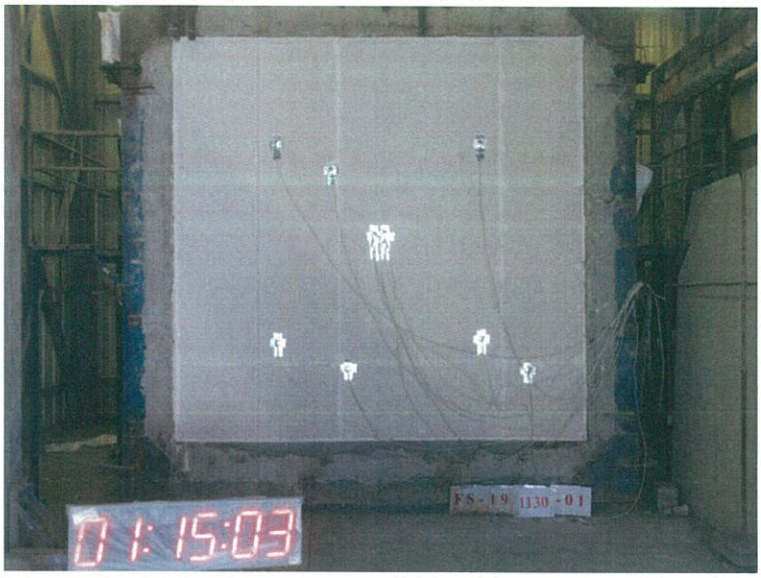

圖 17　測試 75min 後試件背火面

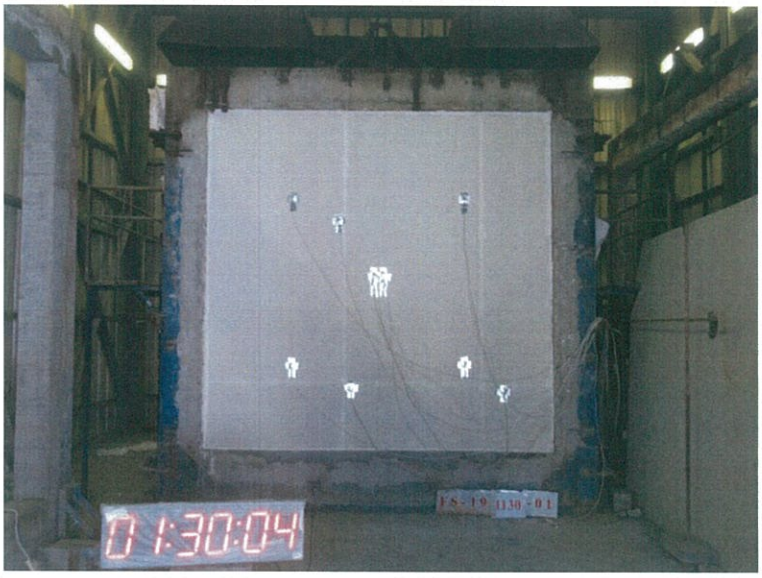

圖 18　測試 90min 後試件背火面

澳門 氹仔 徐日昇寅公馬路 澳門發展及質量研究所
Instituto para o Desenvolvimento e Qualidade, Macau, Avenida Padre Tomás Pereira, S.N., Taipa, Macau
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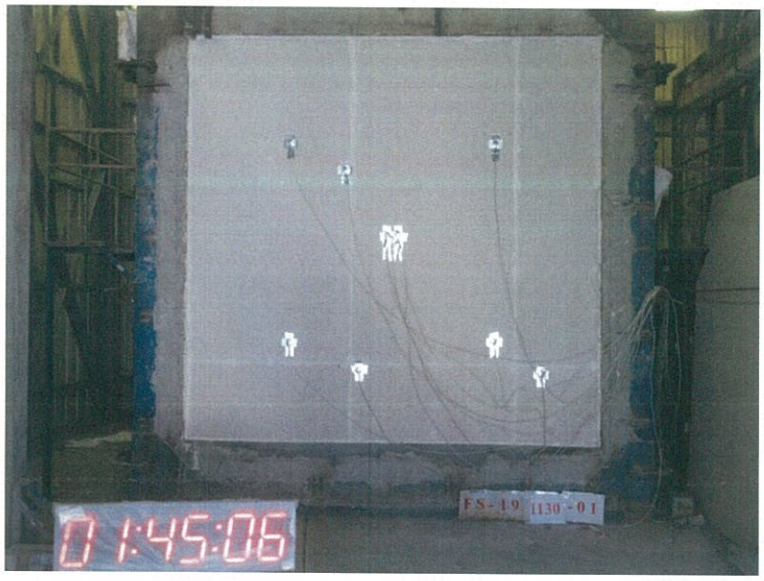

圖 19　測試 105min 後試件背火面

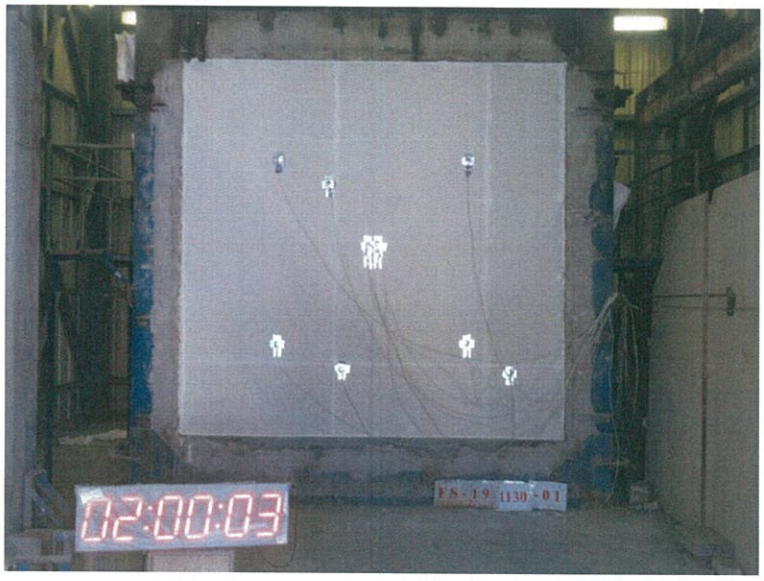

圖 20　測試 120min 後試件背火面

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圖 21　測試 135min 後試件背火面

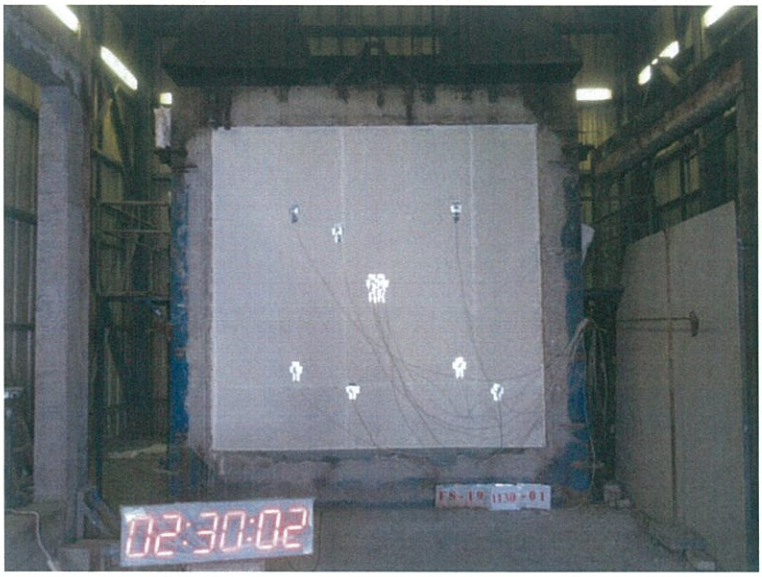

圖 22　測試 150min 後試件背火面

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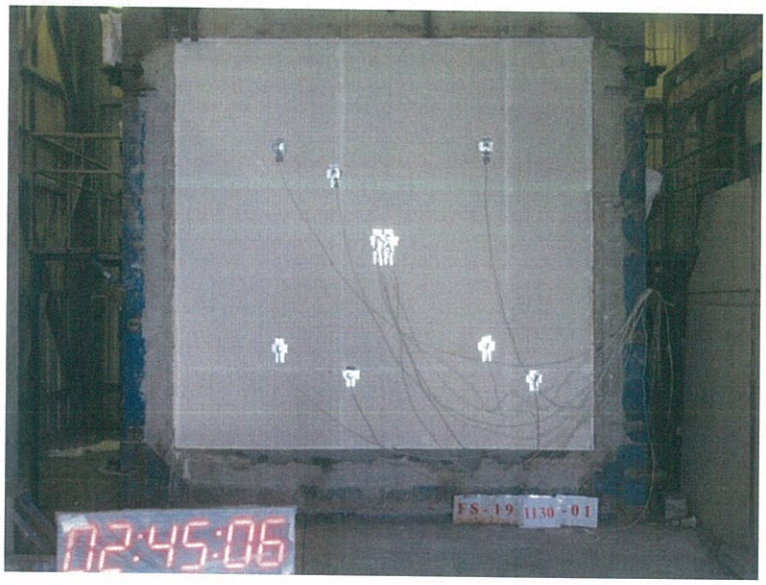

圖 23　測試 165min 後試件背火面

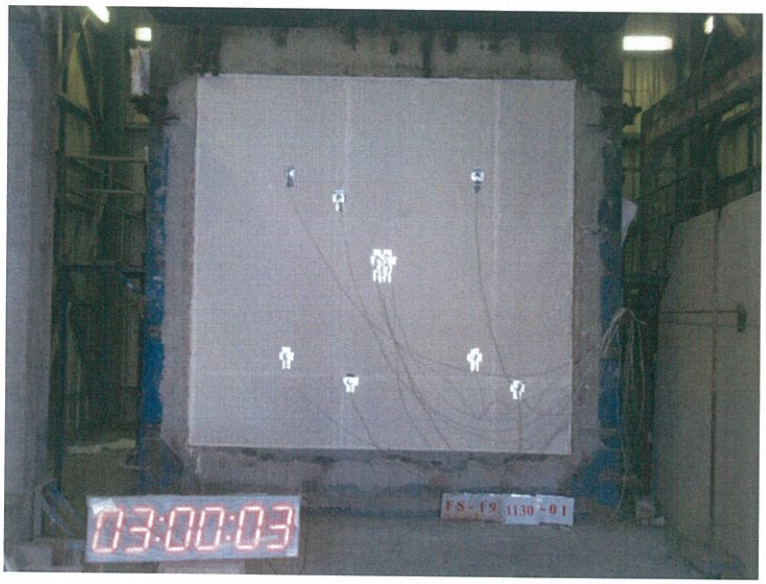

圖 24　測試 180min 後試件背火面

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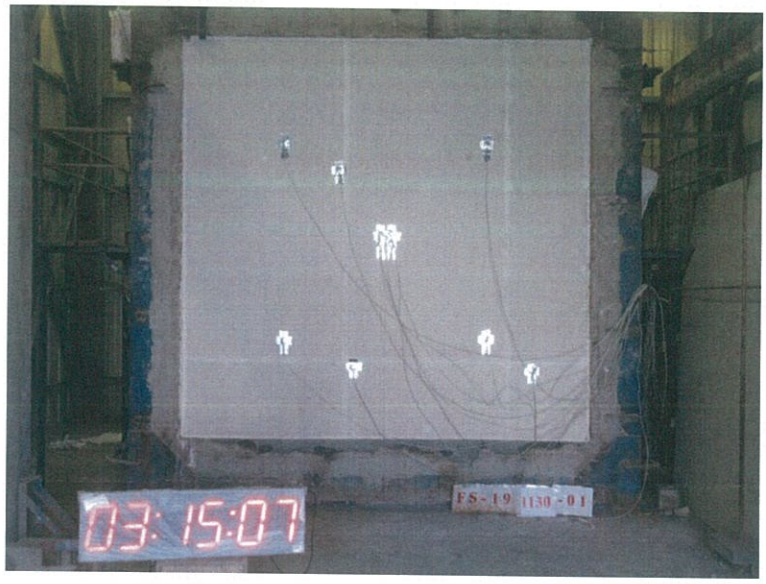

圖 25　測試 195min 後試件背火面

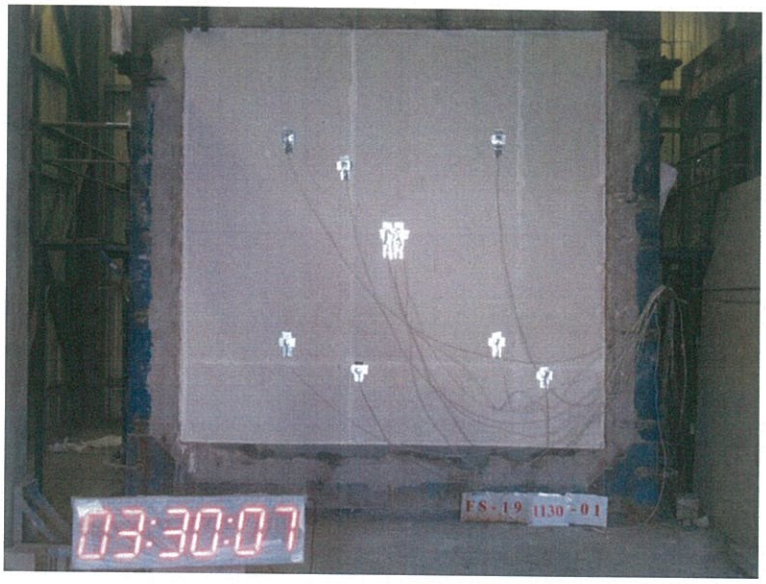

圖 26　測試 210min 後試件背火面

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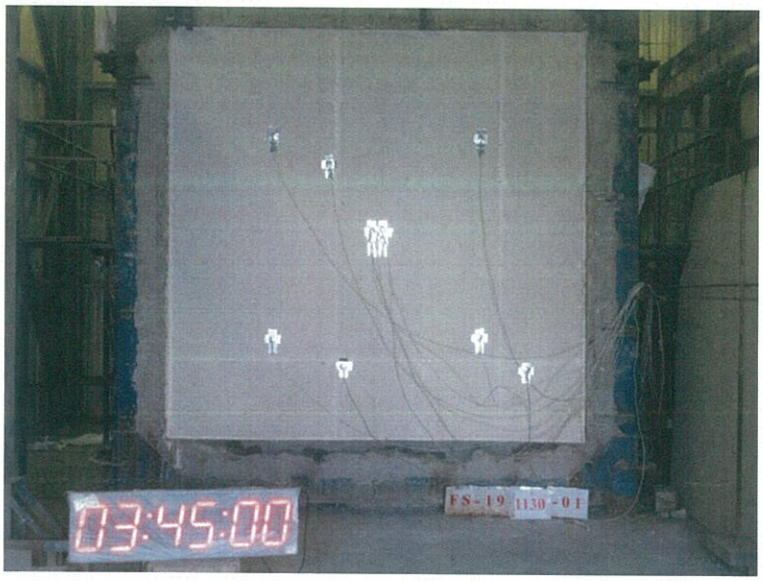

圖 27　測試 225min 後試件背火面

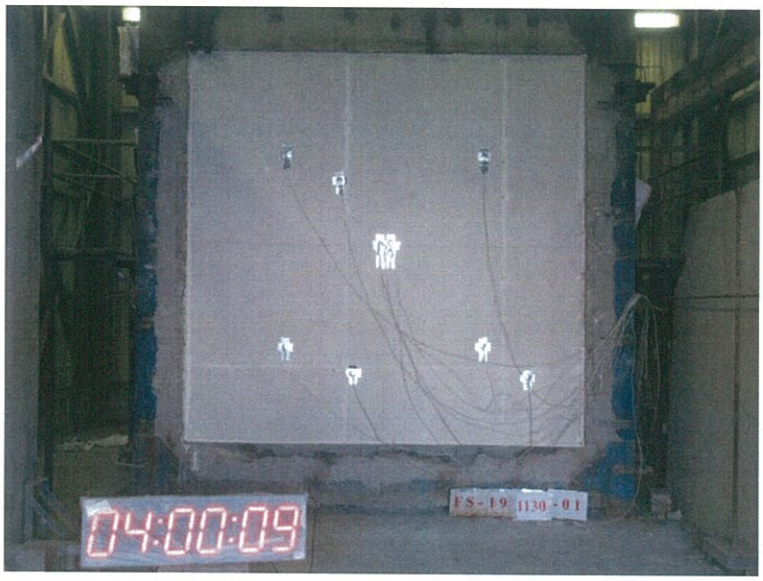

圖 28　測試 240min 後試件背火面

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圖 29　測試後試件向火面

----------報告結束----------

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Saint Paul, MN 55114
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Failure Analysis
Materials Testing

Construction Materials
Product Evaluation
Welder Qualification

PROJECT NUMBER: 30160-05-75293-2
PAGE: 1 **of** 7
DATE: April 26, 2006

SOUND TRANSMISSION TEST CONDUCTED ON A DOUBLE STUD CONTROL WALL USING CP 617 PUTTY PAD MANUFACTURED BY HILTI CONSTRUCTION

Prepared for:
HILTI NORTH AMERICA
Attn: Mr. Jonathan Mathews
5400 South 122nd East Avenue
Tulsa, OK 74146

Client Purchase Order Number: Check #636185

Prepared By:

Kyle Hall
Engineering Technician
Product Testing Department

Reviewed By:

Mathew N. Botz
Project Manager
Product Testing Department
(651) 659-7353

The test results contained in this report pertain only to the samples submitted for testing and not necessarily to all similar products.

NVLAP®
NVLAP LAB CODE 200046-0

PROJECT NUMBER: 30160-05-75293-2

DATE: April 26, 2006

Sound Transmission Class Testing (ASTM E90)

INTRODUCTION:

This report presents the results of sound transmission testing conducted on CP 617 Putty Pad. This material was manufactured and submitted by Hilti Construction. This work was requested by Jonathan Matthews, with testing completed on April 14, 2006.

The Sound Transmission Class (STC) and the Outdoor-Indoor Transmission Class (OITC) values were generated under ASTM test procedures which outline methodology to determine Transmission Loss (TL) values between 80 Hz - 4000 Hz.

Stork / Twin City Testing Corporation has been accredited by the U.S. Department of Commerce and the National Institute of Standards and Technology (NIST, formerly NBS) under their National Voluntary Laboratory Accreditation Program (NVLAP) for conducting ASTM E90 test procedure. This report may not be used to claim product endorsement by NVLAP, NIST or any agency of the U.S. Government.

TEST RESULTS SUMMARY:

Test Description.	STC	def	OITC
Control Wall	***59***	***24***	***42***
Control Wall with 4” x 4” hole	***44***	***30***	***40***
Control Wall with Outlet Boxes Sealed with CP 617 Putty Pad	***59***	***26***	***41***

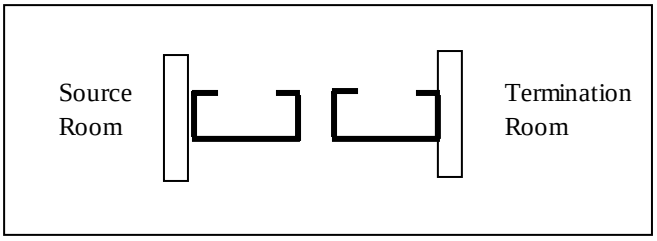
Tabular and graphical presentations of the data are presented under “TEST RESULTS” below (pages 5 – 7).

PROJECT NUMBER: 30160-05-75293-2

DATE: April 26, 2006

SPECIMEN DESCRIPTION: (Also see "Test Results")

Control Wall Drawing



Test #1
The control wall was constructed with double 2"x 4" wood studs spaced at 16" on center. Insulation consisted of 3-1/2" R-11 fiberglass insulation in each set of studs. A single layer of 5/8" gypsum board was attached to the studs on the Source and Termination room side.

Test #2
A 4" x 4" hole was cut into each side of the wall (described above, Test #1). The outlet holes were located on opposing studs, such that electrical boxes could share the same stud cavity but attached to opposite studs. The wall was then tested.

Test #3
Hilti CP 617 Puddy Pad was then installed on the outlet boxes according to the manufacturers' installation instructions and the wall was tested.

PROJECT NUMBER: 30160-05-75293-2

DATE: April 26, 2006

TEST PROCEDURE:

Sound Transmission Test

ASTM:E90(04), "Laboratory Measurement of Airborne Sound Transmission of Building Partitions," was followed in every respect. The STC value was obtained by applying the Transmission Loss (TL) values to the STC reference contour of ASTM: E413(04), "Determination of Sound Transmission Class." The actual transmission loss at each frequency was calculated by the following equations:

$$TL = NR + 10 \log S - 10 \log A_2$$

where: TL = Transmission Loss (dB)
NR = Noise Reduction (dB)
S = Surface area common to both sides (sq. ft.)
A_2 = Sound absorption of the receiving room with the sample in place (sabins)

OITC Procedure

ASTM:E1332(03), "Determination of Outdoor-Indoor Transmission Class", was followed in every respect. Basically, the OITC was calculated by using the sound transmission loss values in the 80 to 4000 Hz range as measured in accordance with ASTM E-90(04). These transmission loss data are then used to determine the A-weighted sound level reduction of the specimen for the reference source spectrum specified in Table 1 of ASTM E1332(03). The appropriate calculations were made to determine the OITC value. The source room has a volume of 2948-ft^3 (83-m^3) and the termination room has a volume of 5825-ft^3 (165-m^3).

The temperatures and relative humidity of the termination room met the requirements of the standard during and after the test. All frequencies met the requirements for 95% confidence established by the standard.

TEST EQUIPMENT:

Manufacturer	Model	Description	S/N
Norwegian Electronics	NE830	Real Time Analyzer	11511
Brüel & Kjær	3923	Rotating Microphone Boom	815424
Norsonic (Source Rm)	1230	Pressure Condenser Microphone	26361
Brüel & Kjær (Term Rm)	4192	Pressure Condenser Microphone	2360314

REMARKS:

The test sample will be retained for a period of 30-days and then discarded unless notified by the client.

F:\Product\MMFILES\KTH\75293-Hilti-2.doc

PROJECT NUMBER: 30160-05-75293-2

DATE: April 26, 2006

Filename: test# 4

ASTM E90 - Laboratory Sound Transmission Class

Project Folder	Client	Product	Model #	Quantity	Comment
75293-Hilti	Hilti North America	Filler Wall		1	

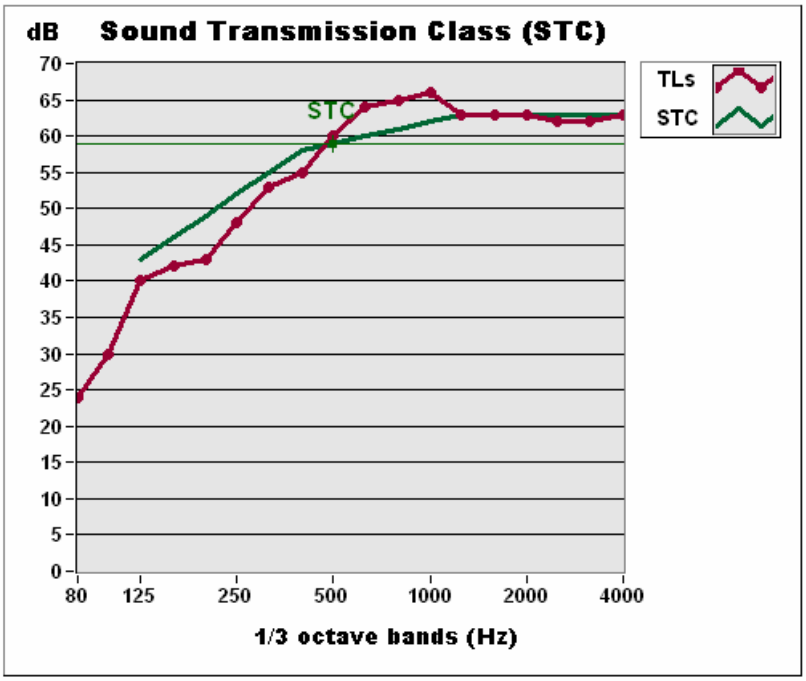
Sample Size - Wt.: 108.0 in x 95.5 in x - 0 lbs

Time Stamp: Thu, Apr 13, 2006 - 3:01 PM

Sample Description: Double 2x4 stud wall, with 16" centered: : One layer of 5/8" sheetrock on each side. : R-11 insulation,sealed with mortite at perimeter of each stud wall : :

TLs - sample TL values (dB)
95% CI - 95% Confidence Interval (dB)
def - STC deficiencies (dB)

F (Hz)	TLs	95% CI	def
80	24	2.8	-
100	30	1.9	-
125	40	1.5	3
160	42	1.8	4
200	43	0.8	6
250	48	0.7	4
315	53	0.5	2
400	55	0.6	3
500	60	0.6	0
630	64	0.4	0
800	65	0.4	0
1000	66	0.4	0
1250	63	0.4	0
1600	63	0.4	0
2000	63	0.4	0
2500	62	0.3	1
3150	62	0.4	1
4000	63	0.6	0



Temp (°C)	R.H. (%)	ATM (mbar)
22.3	74	986

STC = 59 def: 24
OITC: 42

PROJECT NUMBER: 30160-05-75293-2

DATE: April 26, 2006

Filename: test# 5

ASTM E90 - Laboratory Sound Transmission Class

Project Folder	Client	Product	Model #	Quantity	Comment
75293-Hilti	Hilti North America	Filler Wall		1	Outlet Open

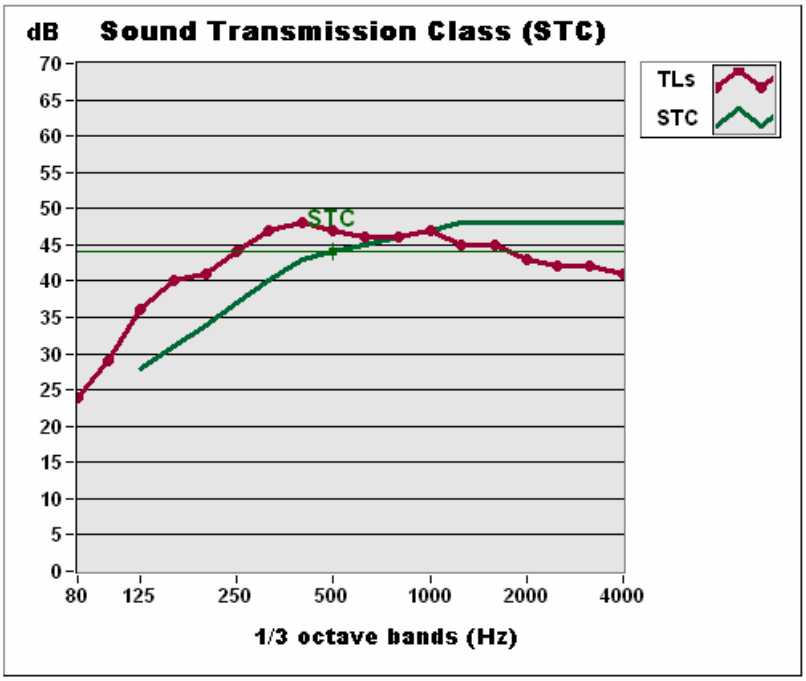
Sample Size - Wt.: 108.0 in x 95.5 in x - 0 lbs

Time Stamp: Thu, Apr 13, 2006 - 3:22 PM

Sample Description: Double 2x4 stud wall, with 16" centered: : One layer of 5/8" sheetrock on each side. : R-11 insulation,sealed with mortite at perimeter of each stud wall : : Outlet opening of 4"x 4": :

TLs - sample TL values (dB)
95% CI - 95% Confidence Interval (dB)
def - STC deficiencies (dB)

F (Hz)	TLs	95% CI	def
80	24	2.8	-
100	29	1.9	-
125	36	1.5	0
160	40	1.8	0
200	41	0.8	0
250	44	0.7	0
315	47	0.5	0
400	48	0.6	0
500	47	0.6	0
630	46	0.4	0
800	46	0.4	0
1000	47	0.4	0
1250	45	0.4	3
1600	45	0.4	3
2000	43	0.4	5
2500	42	0.3	6
3150	42	0.4	6
4000	41	0.6	7



Temp (°C)	R.H. (%)	ATM (mbar)
22.3	74	986

STC = 44 def: 30
OITC: 40

PROJECT NUMBER: 30160-05-75293-2

DATE: April 26, 2006

Filename: test# 6

ASTM E90 - Laboratory Sound Transmission Class

Project Folder	Client	Product	Model #	Quantity	Comment
75293-Hilti	Hilti North America	Wall with Putty Pad	Hilti CP 617	1	Outlets sealed

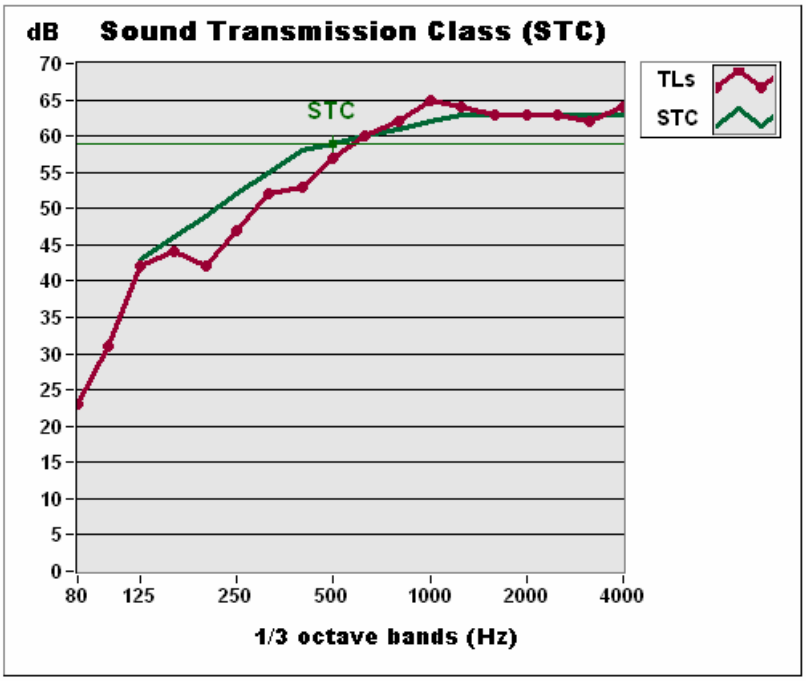
Sample Size - Wt.: 108.0 in x 95.5 in x - 0 lbs

Time Stamp: Thu, Apr 13, 2006 - 3:58 PM

Sample Description: Double 2x4 stud wall, with 16" centered: : One layer of 5/8" sheetrock on each side. : R-11 insulation,sealed with mortite at perimeter of each stud wall : : Both outlets (4" x 4") sealed with Hilti's CP 617 Putty Pad according to manufactures installation instructions. :

TLs - sample TL values (dB)
95% CI - 95% Confidence Interval (dB)
def - STC deficiencies (dB)

F (Hz)	TLs	95% CI	def
80	23	2.8	-
100	31	1.9	-
125	42	1.5	1
160	44	1.8	2
200	42	0.8	7
250	47	0.7	5
315	52	0.5	3
400	53	0.6	5
500	57	0.6	2
630	60	0.4	0
800	62	0.4	0
1000	65	0.4	0
1250	64	0.4	0
1600	63	0.4	0
2000	63	0.4	0
2500	63	0.3	0
3150	62	0.4	1
4000	64	0.6	0



Temp (°C)	R.H. (%)	ATM (mbar)
22.3	74	986

STC = 59 def: 26
OITC: 41

澳門特別行政區政府
Governo da Região Administrativa Especial de Macau

消防局
Corpo de Bombeiros

核閱
Visto
於
Em 17 / 02 / 2020
防火廳代廳長
O Chefe do D.P.I. Substº

意見書

事　　由：申請審批防火填充物料間牆系統
參件編號：--

於 09/01/2020 收到喜利得(香港)有限公司文書及其附錄文件，本局之意見如下：

ø1. 產品列表：

項目	產品名稱	製造商
1.	Hilti CP 617 Intumescent Acoustic Putty Pad (with Drywall System)	Hilti

1.1 材料列表：

防火填充物料：CP 617 Intumescent Acoustic Putty Pad
尺寸：6″ x 7″
厚度：3mm
Expansion temperature：104℃ to 121℃
Socket Box 尺寸：85mm(H) x 85mm(W)
間牆系統尺寸：3040mm(H) x 3070mm(W)
間牆系統厚度：150mm(Thk.)

項目	組件	描述
1.	CP 617 Intumescent Acoustic Putty Pad	品牌：Hilti 產地：美國 型號：CP617 尺寸：6″ x 7″ 厚度：3mm Expansion temperature：104℃ to 121℃
2.	Socket Box	尺寸：85mm(H) x 85mm(W) 材質：GMS Socket Box with Acrylic Socket Cover
3.	間牆系統	尺寸：3040mm(H) x 3070mm(W) 厚度：150mm(Thk.) 由 100mm 厚 C 型龍骨，填充兩層 50mm(厚)岩棉及向火面及背火面各 2 層 12.5mm(厚)Gypsum Board 所組成
4.	C 型龍骨	產地：中國 尺寸：3000mm x 100mm x50mm(0.6mm thick) 材質：Gavanlized Metal Steel
5.	岩棉	品牌：ROCKWOOL 產地：UK 厚度：50mm 密度：60kg/m³ 材質：Mineral Wool

陳

澳門特別行政區政府
Governo da Região Administrativa Especial de Macau

消防局
Corpo de Bombeiros

6.	Gypsum Board	品牌：Promat 產地：UK 厚度：12.5mm 密度：870kg/m^3 材質：Calcium silicate
7.	Sealant	品牌：Hilti 型號：CP606

1.2 根據遞交的資料有以下分析結果：

1.2.1 〝Hilti CP 617 Intumescent Acoustic Putty Pad (with Drywall System)〞，製造商：Hilti，經 BS476:Part20 檢驗，此防火填充物料間牆系統的耐火隔熱性達到 235 分鐘，耐火完整性達到 240 分鐘；

1.2.2 上述結果只反映與 1.1 點相同之物料、結構、厚度及安裝方法之系統。

1.3 根據 1.2 點分析結果，本局對〝Hilti CP 617 Intumescent Acoustic Putty Pad (with Drywall System)〞，製造商：Hilti，此防火填充物料間牆系統的耐火隔熱性達到 235 分鐘，耐火完整性達到 240 分鐘沒有異議；然而，在使用於符合《防火安全規章》規定之場所時，應徵詢權限部門（土地工務運輸局）之最終意見。

陳家明
首席消防員

Certificate of Compliance

This certificate is issued for the following firestopping products:

FS-ONE High Performance Intumescent Firestop Sealant
CP680 Cast-In Firestop Device
CP680-N Cast-In Firestop Device
CP680-P Cast-In Firestop Device
CP682 Cast-In Firestop Device
CP 648E Wrap Strip
CP617 Firestop Putty
CP601 S Elastomeric Firestop Sealant
CP636 Firestop Mortar
CP 604 Self Leveling Firestop Sealant
CP611A High Performance Intumescent Firestop Sealant
CP 643N Firestop Collar
CP606 Flexible Firestop Sealant
CP-672 Firestop Joint Spray
CP620 Firestop Foam
CP680-M Cast-In Firestop Device
CP 675T Firestop Board
CP618 Firestop Putty
CP619T Putty Roll
CP670 Firestop Board
CP673 Firestop Coating

Prepared for:

Hilti AG
Feldkircherstrasse 100
FL-9494 Schaan
Liechtenstein

FM Approvals Class: 4990

Approval Identification: 3051456

Approval Granted: June 4, 2014

To verify the availability of the Approved product, please refer to www.approvalguide.com.

Said Approval is subject to satisfactory field performance, continuing Surveillance Audits, and strict conformity to the constructions as shown in the Approval Guide, an online resource of FM Approvals.

Cynthia E. Frank
AVP - Manager, Materials
FM Approvals
1151 Boston-Providence Turnpike
Norwood, MA 02062

Issued: June 30, 2016

Member of the FM Global Group

Certificate of Compliance

Certificate Number **20060214-R13240G**
Report Reference **2006 February 14**
Issue Date **2006 February 14**

Underwriters Laboratories Inc.®

Issued to: **Hilti, Inc.**
5400 S 122ND East Ave
Tulsa, OK 74146 USA

This is to certify that representative samples of **Fill, Void or Cavity Materials**
CP 617

Have been investigated by Underwriters Laboratories Inc.® in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: ANSI/UL 1479, ANSI/UL 263, CAN/ULC-S115-05

Additional Information: CP 617 Firestop Putty Pad for use in Through-Penetration Firestop Systems and Wall Opening Protective Materials as currently described in the UL Fire Resistance Directory.

Only those products bearing the UL Classification Mark should be considered as being covered by UL's Classification and Follow-Up Service.

The UL Classification Mark includes: UL in a circle symbol: with the word "CLASSIFIED" (as shown); a control number (may be alphanumeric) assigned by UL; a statement to indicate the extent of UL's evaluation of the product; and, the product category name (product identity) as indicated in the appropriate UL Directory.

Look for the UL Classification Mark on the product

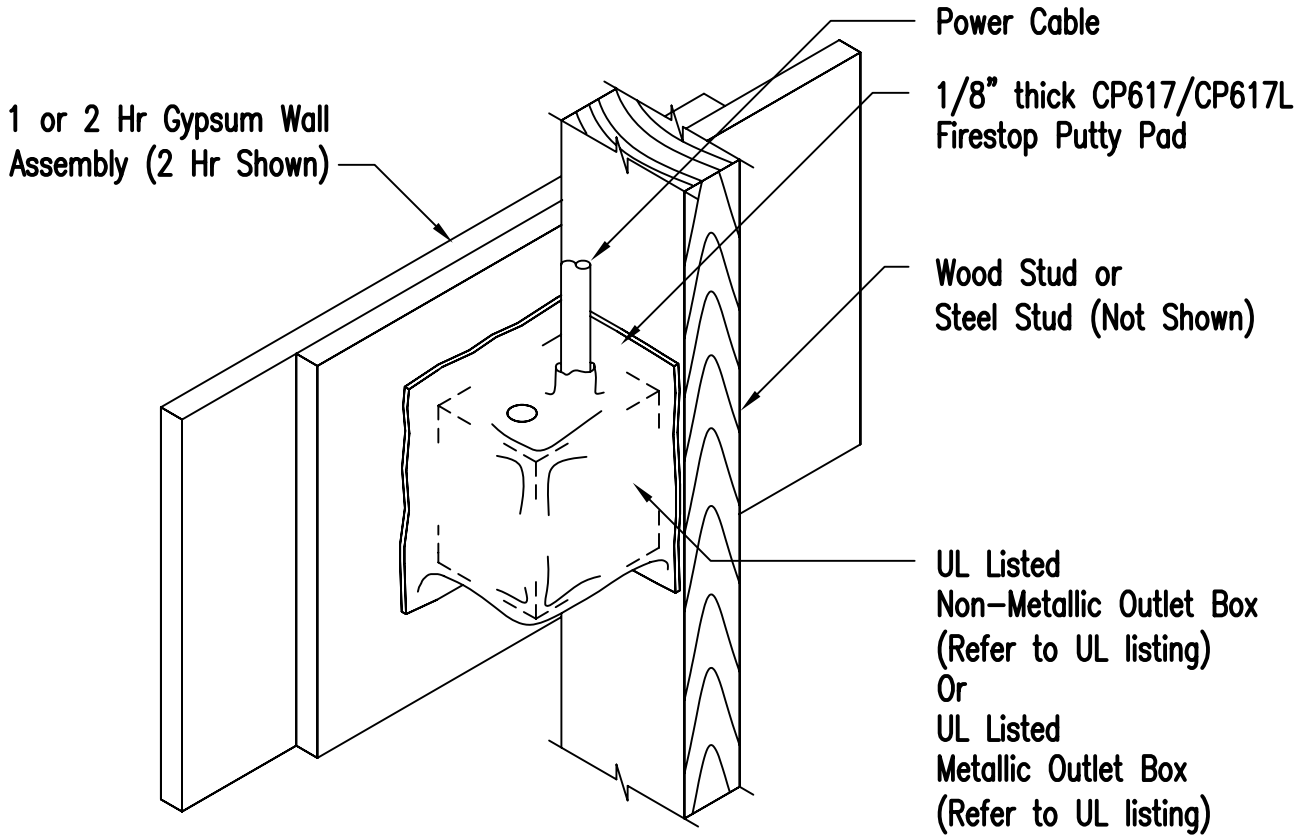
Issued by:
Mona Couloute
Mona Couloute
Underwriters Laboratories Inc.

Reviewed by:
Christopher Johnson
Underwriters Laboratories Inc.

Wall Opening Protective Materials (CLIV)

as Tested to ANSI/UL 263

1 or 2 Hr Rating



CP 617 Putty Pads, for use with max 4 by 4 in. flush device UL Listed Metallic Outlet Boxes installed with steel cover plates in 1 and 2 hr. fire rated gypsum wallboard wall assemblies framed with min 3-1/2 in. deep wood or steel studs and constructed as specified in the individual U300 or U400 Series Wall and Partition Designs in the Fire Resistance Directory. Min 1/8 in. thick moldable putty pads are to be installed to completely cover the exterior surfaces of the outlet box (except for the side of the outlet box against the stud) and completely seal against the stud within the stud cavity. When moldable putty pad outlet box protective material is used on boxes on both sides of wall as directed, the horizontal separation between outlet boxes on opposite sides of the wall may be less than 24 in. provided that the boxes are not installed back to back.

CP 617 Firestop Putty Pads, for use with max 4-11/16 by 4-11/16 in. flush device UL Listed Metallic Outlet Boxes installed with steel cover plates for use in 1 hr fire rated configuration of Wall and Partition Design No. V446 in the Fire Resistance Directory. Min 1/8 in. thick moldable putty pads are to be installed to completely cover the exterior surfaces of the outlet box (except for the side of the outlet box against the stud) and to completely seal against the box within the stud cavity. When moldable putty pad outlet box protective material is used on boxes on both sides of wall as directed, the horizontal separation between outlet boxes on opposite sides of the wall may be less than 24 in. and the boxes may be installed back to back.

Wall Opening Protective Materials (CLIV)
as Tested to ANSI/UL 263
1 or 2 Hr Rating

CP 617 Firestop Putty Pads, for use with max 4 by 3-3/4 by 3 in. deep UL Listed Nonmetallic Outlet Boxes manufactured by Carlon Electrical Products, made from polyvinyl chloride, and bearing a 2 hr rating under the "Outlet Boxes and Fittings Classification for Fire Resistance" category in the Fire Resistance Directory. Putty pads and boxes for use in 1 and 2 hr fire rated gypsum wallboard assemblies, framed with min 3-1/2 in. deep wood studs and constructed as specified in the individual U300 Series Wall and Partition Designs in the Fire Resistance Directory. Outlet box secured to wood stud by means of two nailing tabs supplied with the outlet box. Min 1/8 in. thick moldable putty pads are to be installed to completely cover the exterior surfaces of the outlet box (except for the sides of the outlet box against the stud) including the nailing tab and completely seal against the stud within the stud cavity. Outlet boxes installed with steel or plastic cover plates. When moldable putty pad outlet box protective material is used on boxes on both sides of wall as directed, the horizontal separation between boxes on opposite sides of the wall may be less than 24 in. provided that the boxes are not installed back to back.

CP 617 Putty Pads, for use with max 4 by 4 by 2-7/8 in. deep UL Listed Nonmetallic Outlet Boxes manufactured by Carlon Electrical Products, made from polyvinyl chloride, and bearing a 2 hr rating under the "Outlet Boxes and Fittings Classification for Fire Resistance" category in the Fire Resistance Directory. Putty pads and boxes for use in the 1 hr fire rated V446 gyspum board/steel stud Wall and Partition Design in the Fire Resistance Directory. Outlet box secured to steel stud by means of fastening tab supplied with the outlet box. Min ⅛" thick moldable putty pads are to be installed to completely cover the exterior surfaces of the outlet box (except for the side of the outlet box against the stud) including the tab and completely seal against the stud within the stud cavity. Outlet boxes installed with steel or plastic cover plates. When moldable putty pad outlet box protective material is used on boxes on both sides of wall as directed, the horizontal separation between boxes on opposide sides of the wall may be less than 24 in. and the boxes may be installed back to back.

CP 617 Firestop Putty Pads, for use with max 2-1/4 by 3-3/4 by 2-3/4 in. deep UL Listed Nonmetallic Outlet Boxes manufactured by Pass and Seymore, Inc., and bearing a 2 hr rating under the "Outlet Boxes and Fittings Classification for Fire Resistance" category in the Fire Resistance Directory. Putty pads and boxes for use in 1 and 2 hr fire rated gypsum wallboard assemblies, framed with min 3-1/2 in. deep wood studs and constructed as specified in the individual U300 Series Wall and Partition Designs in the Fire Resistance Directory. Outlet box secured to wood stud by means of two nailing tabs supplied with the outlet box. Min 1/8 in. thick moldable putty pads are to be installed to completely cover the exterior surfaces of the outlet box (except for the sides of the outlet box against the stud) including the nailing tab and completely seal against the stud within the stud cavity. Outlet boxes installed with steel or plastic cover plates. When moldable putty pad outlet box protective material is used on boxes on both sides of wall as directed, the horizontal separation between boxes on opposite sides of the wall may be less than 24 in. provided that the boxes are not installed back to back.

CP 617 Firestop Putty Pads, for use with max 4 by 3-3/4 by 3 in. deep UL Listed Nonmetallic Outlet Boxes manufactured by Allied Molded Products, Inc., made from fiber reinforced thermoplastic and bearing a 2 hr rating under the "Outlet Boxes and Fittings Classification for Fire Resistance" category in the Fire Resistance Directory. Putty pads and boxes for use in 1 hr fire rated gypsum wallboard assemblies, framed with min 3-1/2 in. deep wood studs and constructed as specified in the individual U300 Series Wall and Partition Designs in the Fire Resistance Directory. Outlet box secured to wood stud by means of two nailing tabs supplied with the outlet box. Min 1/8 in. thick moldable putty pads are to be installed to completely cover the exterior surfaces of the outlet box (except for the sides of the outlet box against the stud) including the nailing tabs and completely seal against the stud within the stud cavity. Outlet boxes installed with plastic cover plates. When moldable putty pad outlet box protective material is used on boxes on both sides of wall as directed, the horizontal separation between boxes on opposite sides of the wall may be less than 24 in. provided that the boxes are not installed back to back.

Attn. : To whom it may concern

Date : 26 September 2023
Ref. : 104/FP/DY/23

Subject : Country of Origin- Hilti CP617 Firestop putty pad

Dear Sir / Madam,

Enclosed please find the information of Hilti CP617 Firestop putty pad .

Brand Name : Hilti

Model Name : Hilti CP617 Firestop putty pad

Manufacturer : Hilti Corporation

Address of Manufacturer : FL-9494, Principality of Liechtenstein.

Manufacturer Contact Person : Dennis Yeung

Supplier : Hilti (Hong Kong) Ltd

Address of Supplier : 701-704, 7/F, Tower A, Manulife Financial Centre,
223 Wai Yip Street, Kwun Tong, Kowloon, Hong Kong

Supplier Contact Person : Dennis Yeung (+852 9723 4621)

Country of Origin : Canada

Should you have further questions, please do not hesitate to contact our Technical Representatives, Customer Service Hotline at 8228-8118, or email us at hksales@hilti.com.

Yours faithfully,

Dennis Yeung
Head of Product Leadership Strategy, F&P

Hilti (Hong Kong) Ltd.
701-704 | Tower A | Manulife Financial Centre
223 Wai Yip Street | Kwun Tong
Kowloon | Hong Kong
P +852-8228 8118 I **F** +852-2954 1751
www.hilti.com.hk

Date: 22 June 2021

Ref.: 038/FP/BL/21

Subject: Hilti CP617 Firestop Putty Pads

To Whom It May Concern:

- The Hilti CP617 Firestop Putty Pad is manufactured in Canada.
- The Package of the Hilti CP617 Firestop Putty Pad can be completely recycled.
- There is no recycled content in the Hilti CP617 Firestop Putty Pad and it cannot be recycled.
- The Hilti CP617 Firestop Putty Pad does not share any rapidly renewable materials.
- The VOC content of the Hilti CP617 Firestop Putty Pad is <35 g/l.

If you would like to know more about Hilti solutions for LEED buildings or should you have any further questions, please do not hesitate to contact our Customer Service Hotline at 8228-8118 or email us at hksales@hilti.com.

Yours faithfully,

Bill Lee
Product Portfolio Manager
Hilti (Hong Kong) Ltd.

To whom it may concern

Date: 22nd April 2016

Dear Sir / Madam,

Subject: Hilti Firestop Products non-CFC and Ozone Confirmation

Referring to your enquiry about the captioned subject, please be advised that:

Hilti firestop products, CP617 Intumescent AcousticPutty Pad is free of CFC, HCFC nor other ozone depletion elements.

CFC, HCFC and ozone depletion elements were not used during the product process neither.

Should you have further questions, please do not hesitate to contact our Technical Representatives or Customer Service Hotline at 8228-8118.

Yours sincerely,

Andrew Lau
Product Manger

CFS-P BA, CP 617, CP 618, CP 619, CFS-D 1", CFS-D 25

Safety Data Sheet

according to the United Nations GHS (Rev. 4, 2011)

Date of issue: 12/12/2019 Revision date: 12/12/2019 Supersedes: 07/10/2019

Version: 3.2

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form	Mixture
Trade name	CFS-P BA, CP 617, CP 618, CP 619, CFS-D 1", CFS-D 25
Product code	BU Fire Protection

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture	Firestop putty pad

1.3. Details of the supplier of the safety data sheet

Hilti (Hong Kong) Ltd.
701-704, 7/F, Tower A, Manulife Financial Centre
223 Wai Yip Street, Kwun Tong
Kowloon - Hong Kong
T +852 27734 700
hksales@hilti.com

Supplier
Hilti (Hong Kong) Ltd.
701-704, 7/F, Tower A, Manulife Financial Centre
223 Wai Yip Street, Kwun Tong
Kowloon - Hong Kong
T +852 27734 700
hksales@hilti.com

Department issuing data specification sheet
Hilti AG
Feldkircherstraße 100
9494 Schaan - Liechtenstein
T +423 234 2111
chemicals.hse@hilti.com

1.4. Emergency telephone number

Emergency number	Schweizerisches Toxikologisches Informationszentrum – 24h Service +41 44 251 51 51 (international) +852 27734 700

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS (Rev. 4, 2011)

Not classified

2.2. Label elements

Labelling according to the United Nations GHS (Rev. 4, 2011)

No labelling applicable

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

This mixture does not contain any substances to be mentioned according to the applicable regulations

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after skin contact	Wash skin with plenty of water. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persists.
First-aid measures after ingestion	Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects	Not expected to present a significant hazard under anticipated conditions of normal use.
Potential adverse human health effects and symptoms	Based on available data, the classification criteria are not met.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions	Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting	Self-contained breathing apparatus. Complete protective clothing. Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1.For non-emergency personnel

Emergency procedures	Evacuate unnecessary personnel.

6.1.2.For emergency responders

Protective equipment	For further information refer to section 8: "Exposure controls/personal protection". Equip cleanup crew with proper protection.
Emergency procedures	Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	On land, sweep or shovel into suitable containers.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
Hygiene measures	Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	Store at ambient temperature.
Incompatible products	Strong bases. Strong acids.
Incompatible materials	Sources of ignition. Direct sunlight.
Storage temperature	-5 - 40 °C

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Additional information	The product has a pasty consistency. Exposure limit values for respirable dusts are not relevant for this product.

8.2. Appropriate engineering controls

Other information	Do not eat, drink or smoke during use.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Hand protection	Wear protective gloves.
Eye protection	Chemical goggles or safety glasses
Skin and body protection	Wear suitable protective clothing

8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Appearance	Pasty.
Molecular mass	Not determined
Colour	red.
Odour	characteristic.
Odour threshold	Not determined
pH	Not relevant
Relative evaporation rate (butylacetate=1)	No data available
Melting point	Not applicable
Freezing point	No data available
Boiling point	No data available
Flash point	Not applicable
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	Not applicable,Non flammable.
Vapour pressure	No data available
Relative vapour density at 20 °C	No data available
Relative density	No data available
Density	1.6 g/cm³
Solubility	Water: Insoluble
Log Pow	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	No data available
Explosive properties	No data available
Oxidising properties	No data available
Explosive limits	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions. Not established.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. Not established.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7). Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	Not classified
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Not classified
Skin corrosion/irritation	Not classified pH: Not relevant
Serious eye damage/irritation	Not classified pH: Not relevant
Respiratory or skin sensitisation	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
STOT-single exposure	Not classified
STOT-repeated exposure	Not classified
Aspiration hazard	Not classified
Potential adverse human health effects and symptoms	Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	Not classified
Hazardous to the aquatic environment, long-term (chronic)	Not classified

12.2. Persistence and degradability

CFS-P BA, CP 617, CP 618, CP 619, CFS-D 1", CFS-D 25	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

CFS-P BA, CP 617, CP 618, CP 619, CFS-D 1", CFS-D 25	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Ozone	Not classified
Other adverse effects	No additional information available
Other information	Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	Dispose in a safe manner in accordance with local/national regulations.
Product/Packaging disposal recommendations	Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials	Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	RID
14.1. UN number			
Not regulated	Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name			
Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)			
Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group			
Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards			
Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available			

14.6. Special precautions for user

- Overland transport

- Transport by sea

No data available

- Air transport

No data available

- Rail transport

Carriage prohibited (RID)	No

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

No additional information available

SECTION 16: Other information

SDS Major/Minor	None
Date of issue	12/12/2019
Revision date	12/12/2019
Supersedes	07/10/2019

Indication of changes:

Section	Changed item	Change	Comments
			general update

Other information None.

SDS_UN_Hilti

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Hilti CP 617 Firestop Putty Pad Job Reference

Year	Project Name	Customer Name	Project type
2020	1-25 A KUNG NGAM RD HOUSING	SAMBA ENGINEERING LIMITED	Residential
2020	TUEN MUN AREA 54 HOUSING SITE 3,4	CHINA STATE CONSTRUCTION	Residential
2020	TUEN MUN HOSPITAL EXT	CHEVALIER (CONSTRUCTION) CO LTD	Health
2020	TSING HUNG RD HOUSING	CHINA STATE CONSTRUCTION	Residential
2020	LIU TO RD & HANG MEI ST, TYTL 192	HUNS ENGINEERING COMPANY LIMITED	Residential
2020	21-31 WING FUNG ST	WANG & LEE CONTRACTING LIMITED	Residential
2020	6 SEYMOUR TERRACE,62C ROBINSIN RD	FORTUNE & TRIUMPHANT ENGINEERING	Residential
2020	TUNG CHUNG RD HOUSING (27)	MAJESTIC ENGINEERING CO LTD	Residential
2020	HK PALACE MUSEUM (HKPM)	CHINA STATE CONSTRUCTION	Community & Cultural
2020	HKIA C18W02 ITT TERMINAL	KEE SEE ENGINEERING CO LTD	Transport
2021	TAI PO FU TIP EST PH2	AGGRESSIVE CONSTRUCTION COMPANY	Residential
2021	TSING HUNG RD HOUSING	CHINA STATE CONSTRUCTION	Residential
2021	25-29 KOK CHEUNG ST - SQUARE MILE PH 4	EFFORT ENGINEERING LIMITED	Residential
2021	TUEN MUN AREA 54 HOUSING SITE 3,4	CHINA STATE CONSTRUCTION	Residential
2021	New - Hospitality - 11-21 Tai Nan Street, Prince Edward	KEN YIP CONSTRUCTION (HK)	Hospitality
2021	KAI TAK AREA 4B, SITE 3, NKIL 6574	KOON WO ELECTRICAL DEVELOPMENT	Residential
2021	9-11 KESWICK ST	NEW HOUSE CONSTRUCTION CO LTD	Office
2021	LIU TO RD & HANG MEI ST, TYTL 192	BOGART ENGINEERING LIMITED	Residential
2021	SIN FAT RD, KWUN TONG NKIL 6584	FORTUNE LINK ENGINEERING CO LTD	Residential
2021	LAI PING RD, KAU TO (614)	`	Residential
2022	UNITED CHRISTIAN HOSPITAL	MS (HK) ENGINEERING LIMITED	Health
2022	WAN CHAI HOPEWELL CENTRE 2	SUNDART TIMBER PRODUCTS CO LTD	Hospitality
2022	TUEN MUN AREA 17, SITE B & C HOUSING (NEAR YIP WONG RD	ABLE CONTRACTORS LIMITED	Residential
2022	SHAP SZE HEUNG, TPTL 157 DD165, 207, 218	SANFIELD (MANAGEMENT) LIMITED	Residential
2022	HO MAN TIN STATION RES PACKAGE 1	SHUN CHEONG ELECTRICAL ENGINEERING	Residential
2022	SHING KAI RD, KAI TAK NKIL 6607	HUNS ENGINEERING COMPANY LIMITED	Hospitality
2022	YIN PING RD, TAI WO PING (6542)	SHUN HING E & M ENGINEERING LTD	Residential
2022	HIN FAT LANE, AREA 39 - PUBLIC HOUSING	HANISON CONSTRUCTION CO LTD	Residential
2022	ANDERSON ROAD QUARRY, SITE R2-3	PAUL Y. BUILDERS LIMITED	Residential
2022	4A-4P SEYMOUR RD	EFFORT ENGINEERING LIMITED	Residential
2023	HO MAN TIN STATION RES PACKAGE 1	SHUN CHEONG ELECTRICAL ENGINEERING	Residential
2023	UNITED CHRISTIAN HOSPITAL	MS (HK) ENGINEERING LIMITED	Health
2023	WAN CHAI HOPEWELL CENTRE 2	SUNDART TIMBER PRODUCTS CO LTD	Hospitality
2023	ANDERSON ROAD QUARRY, SITE R2-8 HOUSING	UNISTRESS BUILDING CONSTRUCTION	Residential
2023	HANG TAI RD, MA ON SHAN AREA 86B PH 1&2 - HOUSING	CHINA STATE CONSTRUCTION	Residential
2023	ANDERSON ROAD QUARRY, SITE R2-2	YAU LEE CONSTRUCTION CO LTD	Residential
2023	AREA 16 TUEN MUN (WEST OF HANG FU ST)	WOON LEE CONSTRUCTION CO LTD	Residential
2023	SHAP SZE HEUNG, TPTL 157 DD165, 207, 218	SANFIELD (MANAGEMENT) LIMITED	Residential
2023	LONG BIN - PUBLIC HOUSING PH 2	YAU LEE CONSTRUCTION CO LTD	Residential
2023	JAT MIN CHUEN LOT 28, ELDERLY HOME	CHEVALIER (CONSTRUCTION) CO LTD	Health
		`	