



# Hilti CP 606 Firestop Acrylic Sealant

## Submission Folder

Product Information and Method Statement	2
Test Reports	
University of Macau No. 2018-A50	7
VOC Content	29
Approvals	
Macau Fire Services	30
Factory Mutual	32
Underwriters Lab Inc.	33
Letters	
Country of Origin	34
LEED Letter	35
Non-CFC and Ozone Confirmation	36
Material Safety Data Sheet	37
Job Reference	44



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## Flexible firestop sealant CP 606



### APPLICATIONS

- Sealing rigid or low-movement ceiling/wall joints, widths from 6 to 30 mm
- Sealing metal pipe penetrations
- For use in various base materials such as masonry, concrete, drywall and metal

### ADVANTAGES

- Paintable
- Easy to clean up with water
- Smoke, fume and water resistant



### Technical data

<b>Chemical basis</b>	Water-based acrylic dispersion
<b>Base materials</b>	Concrete, Masonry, Drywall, Steel
<b>Movement<sup>1)</sup></b>	±12.5% (ISO 11600)
<b>Approx. tack-free time (ventilated at 77°F, 80% rel. humidity)</b>	20 min
<b>Approx. curing time<sup>2)</sup></b>	3 mm/3 days
<b>Average volume shrinkage</b>	22.2%
<b>Application temperature range</b>	5 - 40 °C
<b>Temperature resistance range</b>	-30 - 80 °C
<b>Storage and transportation temperature range</b>	5 - 25 °C
<b>Shelf life<sup>3)</sup></b>	24 Months

<sup>1)</sup> according to HTC 1250

<sup>2)</sup> at 75°F/24°C, 50% relative humidity

<sup>3)</sup> at 77°F/25°C and 50% relative humidity; from date of manufacture



### Consumption Guide

Cartridge volume = 310 ml (CP 606)

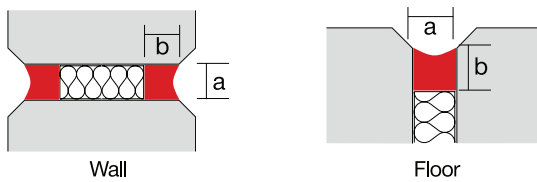
a = Joint width in mm

b = Sealant depth in mm

Linear metre per cartridge =  $\frac{\text{Cartridge volume in ml}}{a \times b}$

e.g. a floor 20mm wide with product depth of 10mm; with 310ml cartridge

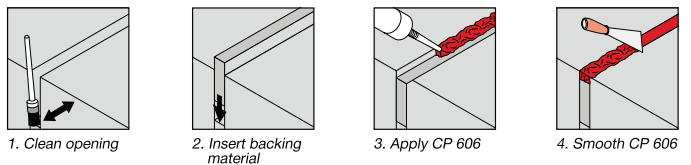
Therefore linear metres per cartridge =  $310 / (20 \times 10) = 1.55$  metre per cartridge for one side of the floor



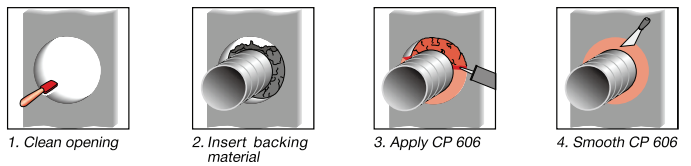
Joint width (mm)	0-15	16-20	21-30
Sealant depth (mm)	6	10	15

### Application Procedure

#### Joint installation



#### Pipe installation (non-combustible pipes only)



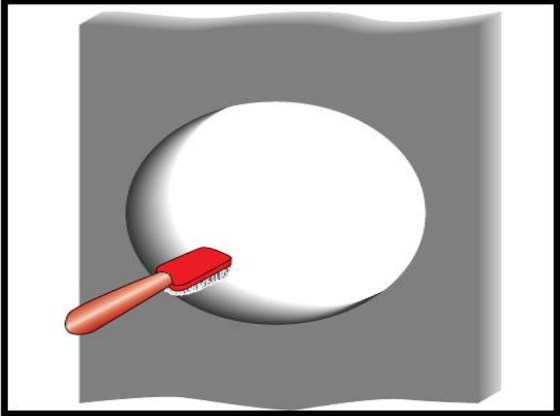
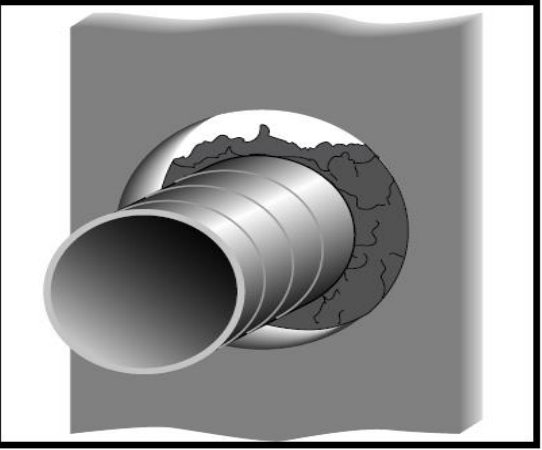
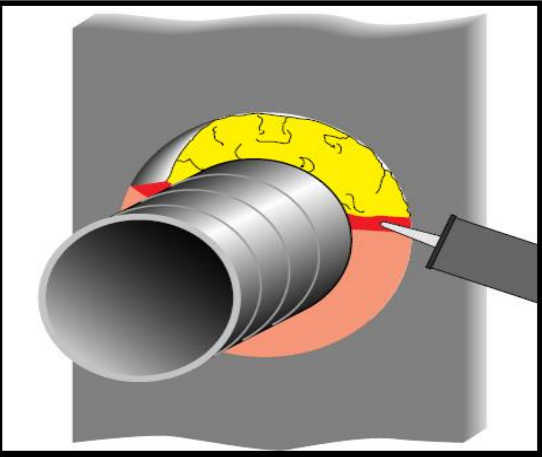
Order Now

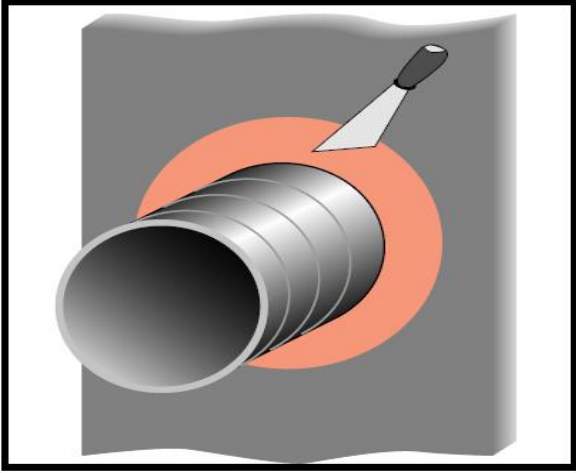
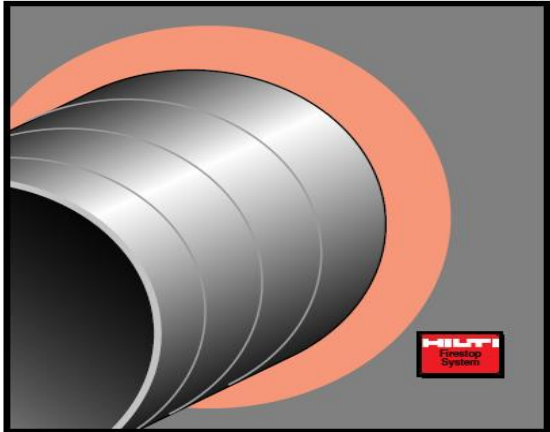


Ordering designation	Colour	Volume per unit	Packaging	Sales pack quantity	Item number
CP 606 310ml INT grey	Grey	310 ml	Cartridge	1 pc	209630
CP 606 580ml INT grey	Grey	580 ml	Foil pack	1 pc	209633
CP 606 310ml white	white	310 ml	Cartridge	1 pc	209625
CP 606 580ml white	white	580 ml	Foil pack	1 pc	209632

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

**Subject:** Method Statement of CP 606 for Penetration Seal.  
**Material:** CP 606 firestop sealant  
**Accessory:** Hilti Dispenser CFS-DISP or Hilti Dispenser CS 270-P1 or equivalent.

Setting Operation									
1	Clean the opening. Joint sides and surfaces to which CP 606 will be applied must be sound, dry and free from dust, oil and grease.								
									
2	Insert the required fill of mineral wool and backer.								
									
3	Apply firestop CP 606 over backer. <table border="1" data-bbox="188 1328 735 1397"> <tr> <td>Joint width (mm)</td> <td>0-15</td> <td>16-20</td> <td>21-30</td> </tr> <tr> <td>Sealant thickness (mm)</td> <td>6</td> <td>10</td> <td>15</td> </tr> </table>	Joint width (mm)	0-15	16-20	21-30	Sealant thickness (mm)	6	10	15
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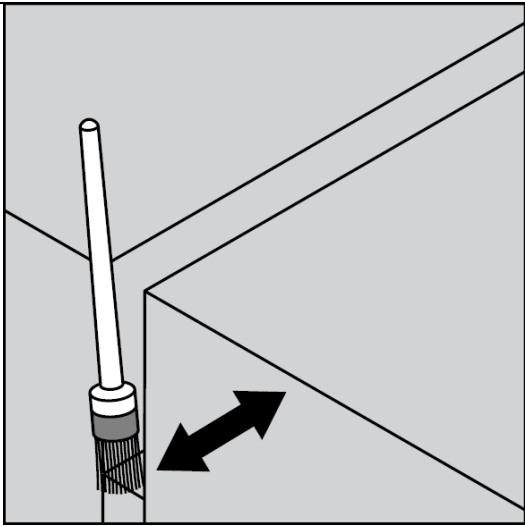
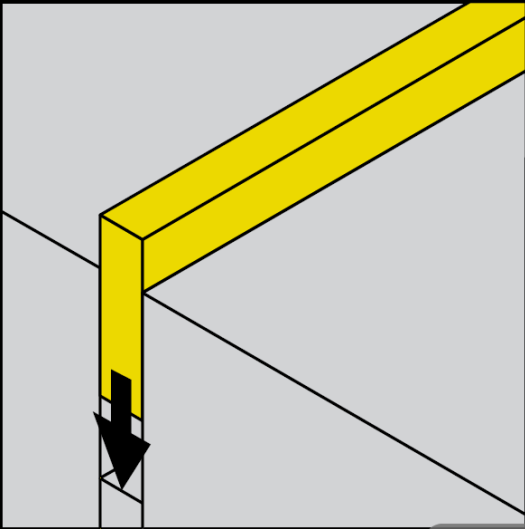
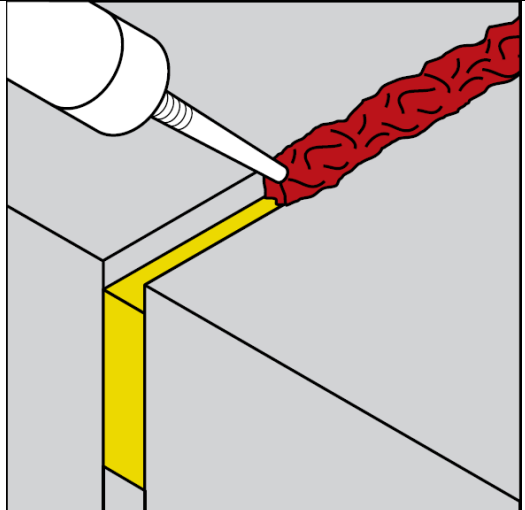
4	<p>Smooth the firestop sealant with a trowel before the skin forms. Once cured, CP 606 can only be removed mechanically.</p>	 A 3D cutaway diagram of a grey pipe protruding from a grey wall. An orange firestop sealant is applied around the pipe. A trowel with a black handle and a flat metal blade is shown smoothing the sealant. The sealant is thicker at the top and tapers towards the bottom.
5	<p>For maintenance reasons, a penetration seal could be permanently marked with an identification plate. In such a case, mark the identification plate and fasten it in a visible position next to the seal.</p>	 A 3D cutaway diagram of a grey pipe protruding from a grey wall. An orange firestop sealant is applied around the pipe. A small red identification plate with the HILTI logo and the text 'Firestop Systems' is attached to the wall next to the sealant. The sealant is thicker at the top and tapers towards the bottom.

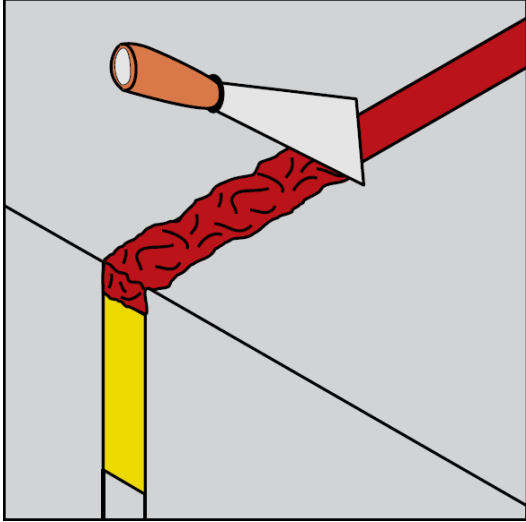
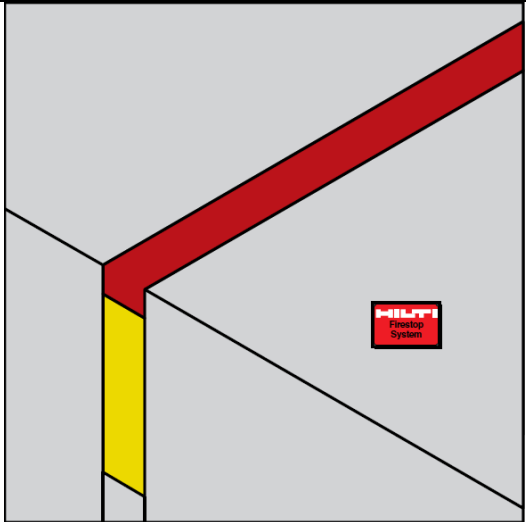
**Safety precautions:**

- Never use in areas immersed in water
- Keep out of reach of children
- Read the Material Safety Data Sheet
- Eyes and hands must be suitably protected
- Avoid contact with eyes or skin
- Only use in well ventilated areas



**Subject:** Method Statement of CP 606 for Linear Joint Seal  
**Material:** CP 606 firestop sealant  
**Accessory:** Hilti Dispenser CFS-DISP or Hilti Dispenser CS 270-P1 or equivalent.

Setting Operation									
1	<p>Clean the opening. Joint sides and surfaces to which CP 606 will be applied must be sound, dry and free from dust, oil and grease.</p> 								
2	<p>Insert fill of mineral wool or backing material (if required)</p> 								
3	<p>Apply CP 606 over the backing material .</p> <table border="1" data-bbox="197 1527 845 1594"> <tr> <td>Joint width (mm)</td> <td>0-15</td> <td>16-20</td> <td>21-30</td> </tr> <tr> <td>Sealant thickness (mm)</td> <td>6</td> <td>10</td> <td>15</td> </tr> </table> 	Joint width (mm)	0-15	16-20	21-30	Sealant thickness (mm)	6	10	15
Joint width (mm)	0-15	16-20	21-30						
Sealant thickness (mm)	6	10	15						

4	Smooth CP 606 using a trowel before the skin forms. It can only be removed mechanically once it is cured.	 A diagram showing a corner joint where a red sealant is being applied. A trowel with a wooden handle is shown smoothing the sealant. The sealant is applied to a yellow vertical surface and a grey horizontal surface. The sealant is shown in a textured, uncured state.
5	For maintenance reasons, a penetration seal would be permanently marked with an identification plate. In such a case, mark the identification plate and fasten it in a visible position next to the seal	 A diagram showing a corner joint where a red sealant is applied. The sealant is now smooth and cured. A small red identification plate with the HILTI logo and the text 'Firestop System' is fastened to the grey surface next to the sealant. The yellow vertical surface is also visible.

**Safety precautions:**

- Never use in areas immersed in water
- Keep out of reach of children
- Read the Material Safety Data Sheet
- Eyes and hands must be suitably protected
- Avoid contact with eyes or skin
- Only use in well ventilated areas



# 檢測報告

No. 2018-A50

試件名稱： CP 606 Intumescent Joint Filler

報告發送致送檢單位：

送檢單位： Hilti (Hong Kong) Ltd.

(已取代原報告：No. 2005-FRT42)

複檢日期(第一次)： 2019年03月21日

再次複檢日期： 2022年03月21日

澳門大學



# 檢測報告

No: 2018-A50

試件名稱	CP 606 Intumescent Joint Filler
送檢單位名稱	Hilti (Hong Kong) Ltd.
試件製造商	Hilti
試件產地	德國
試件型號規格	密度：約 1.5 g/cm <sup>3</sup> 體積收縮率 (固化後)：約 20 % 容許變形：±10% 表皮型成時間：約 15 分鐘 固化速度：約 2mm/3 天
送樣日期	2005 年 12 月 02 日
送檢時附上報告	Warrington Fire Research Centre Ltd. 報告編號：WARRES NO.69754C
檢測項目	防火填充材料耐火性能
檢測依據	BS 476- 20: 1987
檢測日期	2005 年 12 月 09 日
檢測結論	經檢驗，此防火填充材料的耐火隔熱性達到 245 分鐘，耐火完整性達到 245 分鐘。需注意本試件只適用於填充的用途，而不可作為一整幅間隔牆體使用。

檢測人員，

審核，

黃傑勇  
實驗員

譚立武  
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

No.2018-A50

澳門大學

第 1 頁，共 21 頁

## 1 檢測目的

- 1.1 根據英國標準 BS476 第 20 部分：1987，測試 CP606 防火填充材料之耐火性能。

## 2 引言

- 2.1 根據送檢單位的要求，防火填充材料之耐火測試需滿足英國標準 BS476 第 20 部份：1987 之要求。
- 2.2 試件由送檢單位於 2005 年 12 月 02 日安裝，並於 2005 年 12 月 09 日進行測試。
- 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 試件由輕質混凝土、防火泥及防火填充材料等組成。主要測試試件尺寸為 600mm × 600mm × 150mm，由三段闊度為 30 mm 的防火填充材料組成，三段防火填充材料則分別應用於不同的底材上，防火填充材料的厚度為 15 mm。試件以輕質混凝土及防火泥安裝於檢測框內，試件之外觀及組成部分可參考送檢單位所提供之圖 1 至圖 3。詳細圖則及試件構造可參照附錄 A。
- 3.2 本報告所繪製之圖則及試件組成部份是根據送檢單位所提供的資料而作。試件之厚度、外觀及組成部份已由本實驗室檢測員檢查。





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

3.4 試件在檢測前幾天內安裝完畢。

#### 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 5。

4.3 爐體內設有壓力計以監察爐體壓力。

4.4 試件背火面設有 12 個熱電偶以作監察溫度之用，熱電偶分佈位置附錄 A 之圖 4。試件背火面所有熱電偶均用作判斷試件的隔熱性。

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。

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。

## 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 測試開始時周圍環境溫度為 19°C。
- 5.5 在送檢單位的同意下在 245 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，試件之耐火表現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。如棉墊沒有被試件背火面之高溫點燃及試件背火面未出現能讓量測棒插入貫通之裂縫，試件之耐火完整性才被判斷為合格。
- 6.1.2 耐火隔熱性 – 試件背火面最高平均溫度升幅不得超過 140°C 及單點溫度升幅不得超過 180°C。



## 7 結論

- 7.1 根據 BS476 英國標準第 20 部分對防火填充材料所制定的準則 - 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	245 分鐘
耐火完整性	245 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，同時亦不反映試樣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。

附錄 A  
試件構造說明及附圖

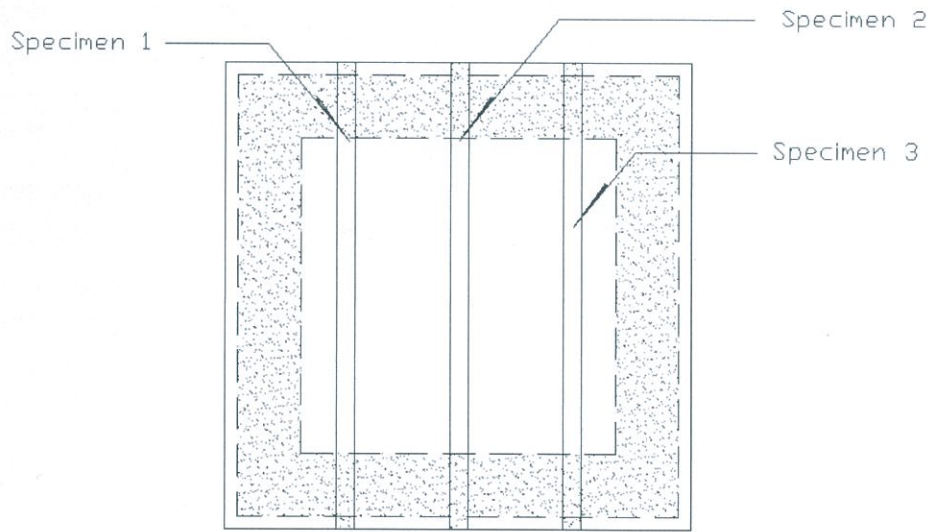


圖 1 測試試件之背火面圖

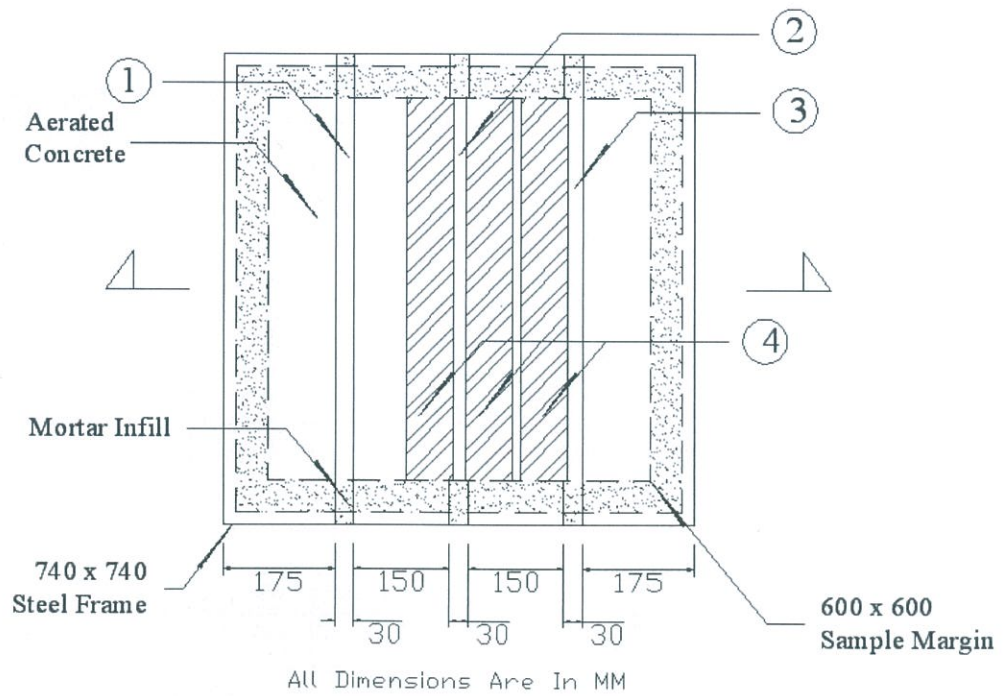


圖 2 測試試件之向火面圖

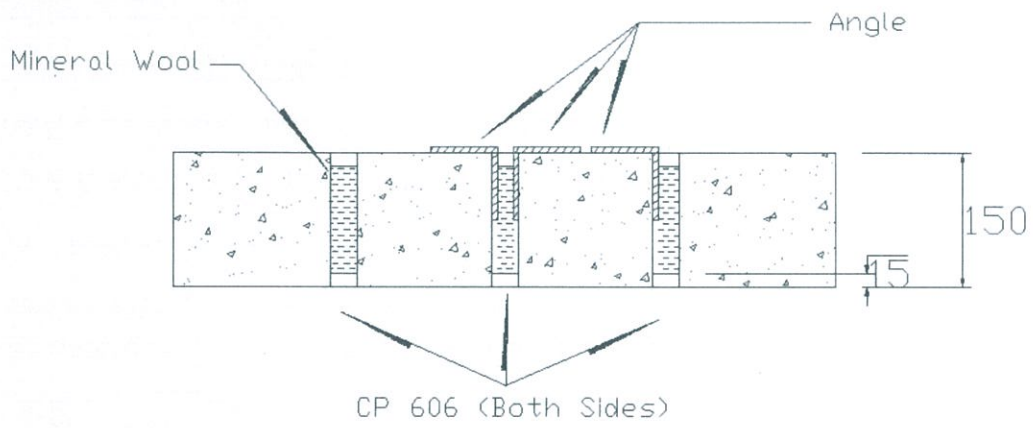
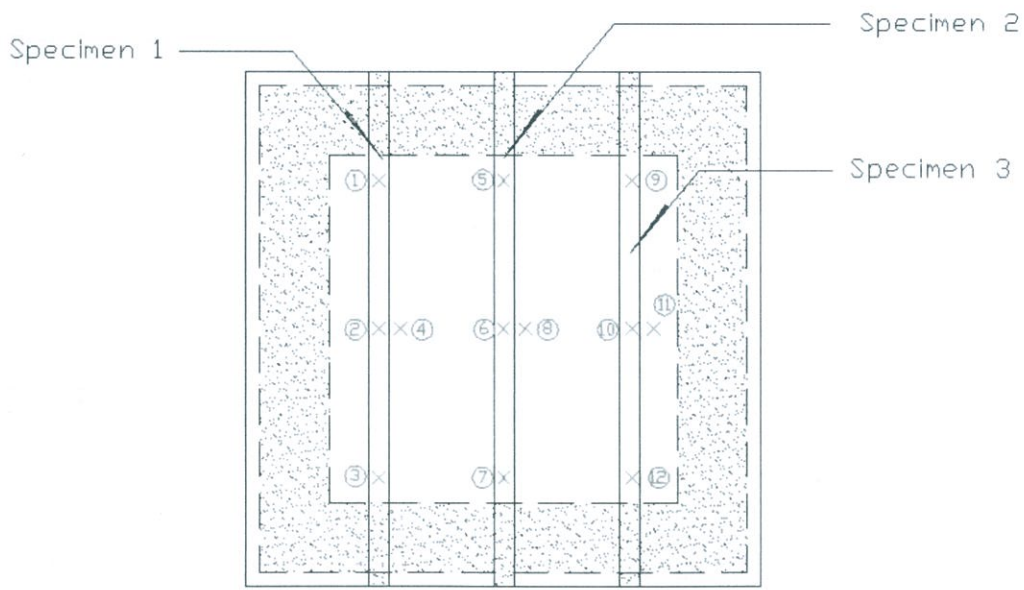


圖 3 測試試件之截面圖



X: 熱電偶

圖 4 測試試件之熱電偶位置圖





### 試件組件資料

(參照附錄 A 之圖 1 至圖 3)

(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) Ltd.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.	Hilti Intumescent Joint Filler	<p>品牌：Hilti</p> <p>型號：CP 606</p> <p>密度：約 1.5 g/cm<sup>3</sup></p> <p>體積收縮率(固化後)：約 20 %</p> <p>容許變形：±10%</p> <p>表皮型成時間：約 15 分鐘</p> <p>固化速度：約 2mm/3 天</p> <p>基礎材質：混凝土、石膏板、磚石</p> <p>試件一：</p> <p>(i) Mastic: CP606 (both sides)</p> <p>(ii) depth of mastic: 15mm</p> <p>(iii) backing material: Mineral wool</p> <p>(iv) Aperture size: 600mm(L)×150mm(D)×30mm(W)</p> <p>(v) gap faces: AAC/AAC</p> <p>試件二：</p> <p>(i) mastic: CP606 (both sides)</p> <p>(ii) depth of mastic: 15mm</p> <p>(iii) backing material: Mineral wool</p> <p>(iv) Aperture size: 600mm(L)×150mm(D)×30mm(W)</p> <p>(v) gap faces: Steel/Steel</p>

		試件三： (i) mastic: CP606 (both sides) (ii) depth of mastic: 15mm (iii) backing material: Mineral wool (iv) Aperture size: 600mm(L)×150mm(D)×30mm(W) (v) gap faces: Steel/AAC
2.	Mineral Wool	品牌：ROCKWOOL 型號：ThermalRock S60 厚度：100mm 密度：60kg/m <sup>3</sup>
3.	Angle	材質：Mild Steel 尺寸：75mm × 75mm × 6mm 固定：Fixed with cement mortar



附錄 B  
測試數據

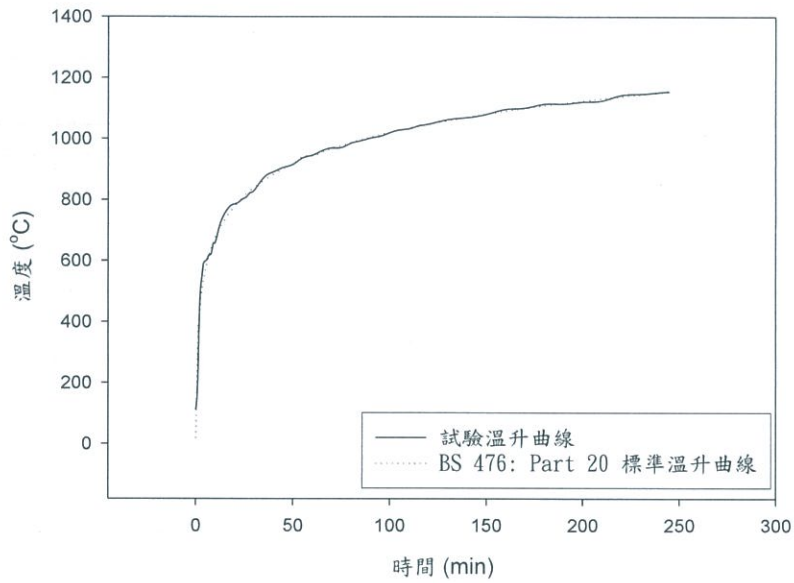


圖 5 平均爐溫與標準(溫度/時間)曲線圖

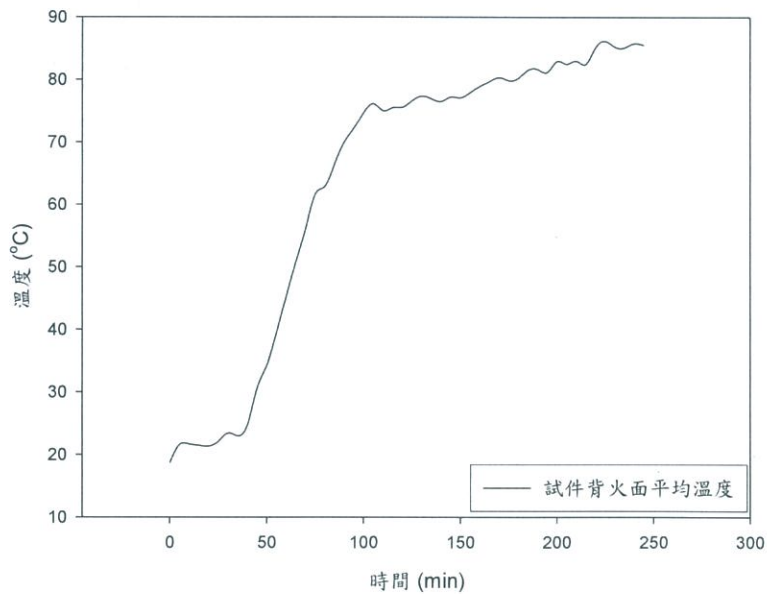


圖 6 試件背火面平均溫度/時間曲線圖

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	110.76		
1	349.21	190.58		
2	444.50	440.85		
3	502.29	537.09		
4	543.89	589.90		
5	576.41	598.60		
6	603.12	606.77		
7	625.78	619.46		
8	645.46	622.61		
9	662.85	656.27		
10	678.43	658.58	±15	2.84
12	705.44	708.98		
14	728.31	743.98		
16	748.15	766.11		
18	765.67	780.65		
20	781.35	785.88		
22	795.55	791.42		
24	808.52	801.60		
26	820.45	808.44		
28	831.50	822.70		
30	841.80	829.47	±10	1.19
35	864.80	872.17		
40	884.74	890.83		
45	902.34	905.10		
50	918.08	915.03		
55	942.83	936.58		
60	945.34	945.40	±5	1.26
65	957.31	959.90		
70	968.39	969.40		
75	978.71	970.56		
80	988.37	984.94		
85	997.44	992.89		
90	1005.99	1001.92	±5	0.72
95	1014.08	1007.76		
100	1021.75	1019.22		
105	1029.06	1028.62		
110	1036.02	1032.54		
115	1042.67	1042.57		
120	1049.04	1047.64	±5	0.51
130	1061.02	1062.58		
140	1072.11	1069.34		
150	1082.44	1080.04		
160	1092.10	1096.62		
170	1101.18	1100.77		



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 (%)
180	1109.74	1113.90		
190	1117.84	1114.09		
200	1125.52	1121.03		
210	1132.82	1124.71		
220	1139.79	1142.87		
230	1146.44	1146.85		
240	1152.82	1152.48		
245	1156.52	1154.76	±5	2.94

表 3 試件背火面單點及平均溫度

時間 (min)	單點熱電偶溫度 (°C)					
	1	2	3	4	5	6
0	19.50	19.50	19.72	19.70	19.20	18.17
5	19.95	20.74	22.15	20.62	19.86	18.15
10	19.84	20.44	22.04	20.26	19.63	18.28
15	22.44	24.31	28.38	24.58	20.00	18.24
20	22.53	24.24	29.01	25.12	20.69	19.77
25	24.29	26.40	32.00	28.17	24.53	20.61
30	23.66	24.94	30.08	25.95	31.62	25.27
35	24.38	25.25	31.46	25.97	39.91	30.49
40	25.28	26.11	33.80	26.49	47.07	38.49
45	28.56	30.26	42.54	32.31	55.00	44.52
50	30.24	33.24	48.00	34.15	59.01	53.48
55	33.95	35.66	51.88	36.08	62.76	59.22
60	37.75	39.91	58.13	39.24	66.27	62.37
65	43.71	45.95	66.40	46.46	70.89	66.43
70	47.98	50.08	70.39	50.48	73.88	70.66
75	54.07	56.27	77.53	57.76	76.44	77.86
80	55.39	56.90	76.89	55.28	74.23	79.64
85	57.82	58.37	77.29	55.83	73.23	75.53
90	61.20	61.31	78.77	59.80	73.40	73.90
95	62.45	62.21	77.51	60.39	72.64	74.18
100	65.54	65.76	79.93	64.45	73.23	75.33
105	67.41	67.96	81.79	66.92	73.40	75.58
110	66.29	65.39	76.94	65.19	71.11	75.60
115	67.76	66.82	78.62	66.97	71.11	73.80
120	68.07	67.23	78.38	67.78	70.87	74.29
125	69.45	69.71	81.18	70.02	71.79	74.92
130	69.03	70.67	84.24	71.70	73.16	75.01
135	68.66	69.82	83.28	71.76	72.79	75.29
140	67.47	68.50	81.35	70.89	71.63	74.06
145	68.20	69.47	83.19	71.61	72.35	72.11
150	68.15	67.54	79.49	70.87	71.46	75.39
155	69.97	69.58	83.32	72.24	72.44	74.39
160	71.28	71.33	83.85	73.62	73.79	75.63
165	71.61	72.00	85.12	74.49	74.14	76.97
170	71.31	71.87	85.53	74.67	73.88	77.60
175	71.44	72.31	86.01	74.84	74.08	76.78
180	71.09	72.29	86.36	75.06	73.84	78.07
185	72.79	75.15	89.29	77.18	75.85	77.82
190	71.98	74.32	88.40	77.09	75.26	78.68
195	71.00	73.01	86.12	75.72	74.03	76.02
200	70.85	72.94	86.08	76.15	73.84	76.73
205	71.06	73.82	87.41	76.61	74.71	76.55
210	70.15	72.79	86.36	76.22	74.10	77.15
215	70.52	73.51	86.91	76.44	73.93	75.44
220	70.26	73.58	85.12	77.75	75.89	78.48
225	71.33	75.06	87.43	78.99	76.15	81.07
230	71.06	74.27	86.03	78.31	75.30	80.53
235	71.52	75.08	86.89	78.73	75.74	78.26
240	70.37	73.42	84.44	77.90	75.21	78.72
245	71.06	74.30	86.30	78.60	76.00	78.30



表 3 背火面單點及平均溫度 (續)

時間 (min)	單點熱電偶溫度 (°C)						平均溫度 (°C)
	7	8	9	10	11	12	
0	18.34	18.73	18.89	18.75	18.91	18.66	19.01
5	18.38	21.55	21.79	21.50	21.50	21.57	20.65
10	18.58	21.52	21.66	21.59	21.77	21.68	20.61
15	18.71	21.86	21.66	21.50	21.59	21.48	22.06
20	20.95	21.95	21.34	21.43	21.52	21.34	22.49
25	25.69	23.30	21.50	22.06	23.48	22.08	24.51
30	39.10	25.21	23.52	24.00	32.62	23.41	27.45
35	51.91	25.16	24.56	25.68	41.34	22.96	30.76
40	61.10	27.95	27.77	29.52	47.69	24.65	34.66
45	66.71	35.91	32.88	36.44	54.14	30.60	40.82
50	72.34	42.47	41.59	41.63	58.72	34.24	45.76
55	74.79	47.01	48.38	45.66	61.51	39.57	49.71
60	75.77	51.86	53.72	50.52	65.57	45.28	53.87
65	78.16	58.85	58.44	54.80	68.81	50.81	59.14
70	79.25	64.32	62.23	58.28	71.15	56.09	62.90
75	86.17	68.64	64.64	60.85	73.40	61.66	67.94
80	85.08	67.98	64.05	57.98	69.97	62.91	67.19
85	77.05	69.49	65.35	60.78	70.63	66.55	67.33
90	76.16	71.06	66.29	62.01	70.96	70.02	68.74
95	75.14	71.61	66.68	62.01	70.28	72.27	68.95
100	77.40	73.53	68.39	62.12	72.35	74.71	71.06
105	76.77	74.62	69.38	63.75	73.99	76.13	72.31
110	75.71	72.77	67.19	58.59	70.48	75.00	70.02
115	74.93	73.34	67.63	58.79	71.17	75.50	70.54
120	76.68	73.38	67.52	57.58	70.56	75.56	70.66
125	77.34	74.95	68.55	63.46	71.94	76.59	72.49
130	77.60	75.74	69.64	67.76	73.66	77.35	73.80
135	76.45	75.32	69.05	66.11	72.29	76.92	73.15
140	74.88	74.67	68.22	65.32	70.50	76.50	72.00
145	73.22	75.30	68.92	67.14	72.13	77.20	72.57
150	76.66	74.67	67.87	62.96	70.45	77.07	71.88
155	75.81	75.54	69.14	65.24	71.41	77.90	73.08
160	78.80	77.31	70.52	68.53	73.75	78.90	74.78
165	80.60	78.40	71.37	69.49	75.41	79.67	75.77
170	80.65	79.43	72.16	70.28	76.28	80.32	76.17
175	79.50	79.12	71.55	68.85	74.86	79.84	75.77
180	81.24	79.27	71.83	68.13	74.93	80.21	76.03
185	82.15	80.61	73.18	71.00	76.85	81.50	77.78
190	82.57	80.54	72.99	69.47	75.76	81.64	77.39
195	76.21	79.43	71.50	67.45	73.97	81.18	75.47
200	79.54	81.90	73.77	72.31	77.96	82.91	77.08
205	77.00	80.65	72.27	69.18	75.00	82.47	76.39
210	79.53	81.48	72.86	69.91	76.02	82.99	76.63
215	75.75	80.76	71.85	68.22	74.65	82.45	75.87
220	82.38	83.82	74.97	74.19	81.59	85.09	78.59
225	83.79	84.87	75.72	74.10	82.38	86.17	79.76
230	84.93	84.07	73.97	70.15	79.43	85.25	78.61
235	77.83	83.98	73.58	69.78	77.83	85.12	77.86
240	80.80	84.98	74.32	71.13	78.68	85.79	77.98
245	79.59	84.59	73.16	69.69	77.68	85.53	77.90



**附錄 C**  
**觀察情況**

表 4 測試過程中，觀察試件情況如下

時間 (小時:分鐘)	事件
-0:01	攝錄機、監察和操控儀器啓動。
0:00	開啟石油氣閥，測試開始。周圍環境溫度為 19°C。
0:02	試件背火面底部有少量煙溢出。
0:17	在試件背火面進行棉墊測試 -- 棉墊未被點燃。
0:19	試件背火面中間防火填塞頂部位置冒煙及轉變為黃色。
0:25	試件背火面第二條與第三條輕質混凝土之間開始出現裂縫 (見圖 8)。
0:30	在試件背火面進行棉墊測試 -- 棉墊未被點燃。
0:45	於 0:25 所提及之裂縫位置有煙溢出。
1:00	在試件背火面進行棉墊測試 -- 棉墊未被點燃。 試件之耐火隔熱性及耐火完整性仍能符合標準。
1:30	於 0:45 所提及之冒煙情況仍然持續。
2:00	在試件背火面進行棉墊測試 -- 棉墊未被點燃。 試件之耐火隔熱性及耐火完整性仍能符合標準。
2:15	於 1:30 所提及之冒煙情況仍然持續。
2:30	在試件背火面進行棉墊測試 -- 棉墊未被點燃。
3:00	在試件背火面進行棉墊測試 -- 棉墊未被點燃。 試件之耐火隔熱性及耐火完整性仍能符合標準。
3:42	試件背火面左邊底部輕質混凝土變黃色(見圖 14)。
4:00	試件之耐火隔熱性及耐火完整性仍能符合標準。
4:05	在送檢單位同意情況下，測試結束。 試件之耐火隔熱性及耐火完整性仍能符合標準。
備註	試件背火面結構仍完整(見圖 16)



附錄 D

圖片



圖 7 測試前試件背火面



圖 8 測試前試件向火面





圖 9 測試 25min 時試件背火面



圖 10 測試 60min 時試件背火面



圖 11 測試 90min 時試件背火面



圖 12 測試 120min 時試件背火面



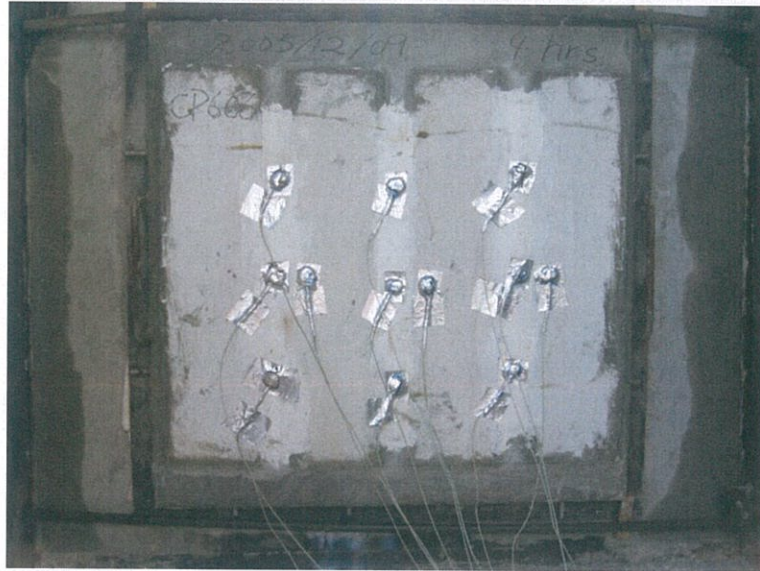


圖 13 測試 150min 時試件背火面



圖 14 測試 180min 時試件背火面

A handwritten signature or mark, possibly a stylized 'L' or 'V', located in the bottom right corner of the page.

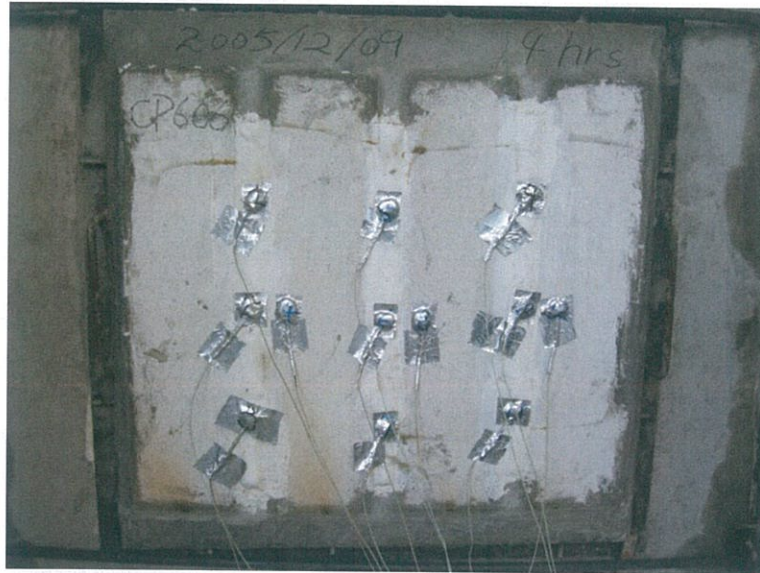


圖 15 測試 222min 時試件背火面



圖 16 測試 245min 時試件背火面



圖 17 測試後試件向火面

-----報告結束-----

Handwritten signature or initials in black ink, consisting of a stylized 'L' shape and a horizontal line.





88 Empire Drive • St. Paul, Minnesota • 55103  
 (651) 642-1150 • fax (651) 642-1239

## VOC Content Test Certificate

October 26, 2009

Supplier: Hilti Entwicklungsgesellschaft mbH  
 BU Chemicals  
 Hiltistrasse 6  
 86916 Kaufering  
 GERMANY

Sample Description: Hilti CP 606

Date tested: July 20, 2009

Test Method: SCAQMD method 304-91 Determination of Volatile Organic Compounds (VOC) in various materials as referenced by South Coast Air Quality Management District (SCAQMD) rule 1168. The values also comply with the requirements of EPA test method #24.

Test Data: Legend Project Number 0903311

Specification	Product
<b>LEED 2009 (LEED 3.0)</b> <b>LEED 2.2</b> IEQ-4.1: Low-Emitting Materials – Architectural Sealant	<b>Hilti</b> <b>CP 606</b>
<b>Green Building Council of Australia</b> Green Star Office Design 3.0, IEQ-13 Green Star Office Design 2.0, IEQ-13 Green Star Office Interiors 1.1, IEQ-11	
<b>Architectural Sealant;</b> <b>VOC Limit: 250 g/L</b>	<b>Product contains: 75 g/L of VOC</b>

William Welbes  
 Vice President of Laboratory Operations

Allen Noreen, Ph.D.  
 Technical Director



澳門特別行政區政府  
 Governo da Região Administrativa Especial de Macau  
 消防局  
 Corpo de Bombeiros

頁編號 1/2  
 Pág. n.º 0488/GEL/DPI/2020  
 文件編號  
 Inf. n.º 17 / 02 / 2020  
 日期 :  
 Data

核閱  
 Visto  
 於 Em 17/02/2020  
 防火廳代廳長  
 O Chefe do D.P.I. Subst<sup>o</sup>

意見書

事由：申請審批防火物料  
 參件編號：--

於 20/01/2020 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：

01. 產品列表：

項目	產品名稱	製造商
1.	CP606 Intumescent Joint Filler	Hilti

1.1 材料列表：

密度：約 1.5g/cm<sup>3</sup>  
 體積收縮率(固化後)：約 20%  
 容許變形：±10%  
 表皮型成時間：約 15 分鐘  
 固化速度：約 2mm/3 天

項目	組件	描述
1.	Hilti Intumescent Joint Filler	品牌：Hilti 型號：CP606 密度：約 1.5g/cm <sup>3</sup> 體積收縮率(固化後)：約 20% 容許變形：±10% 表皮型成時間：約 15 分鐘 固化速度：約 2mm/3 天 基礎材質：混凝土、石膏板、磚石  試件一： (i) Mastic: CP606(both sides) (ii) depth of mastic: 15mm (iii) backing material: Mineral wool (iv) Aperture size: 600mm (L) x 150mm (D) x 30mm (W) (v) gap faces: AAC/AAC  試件二： (i) mastic: CP606(both sides) (ii) depth of mastic: 15mm (iii) backing material: Mineral wool (iv) Aperture size: 600mm (L) x 150mm (D) x 30mm (W) (v) gap faces: Steel/Steel  試件三： (i) mastic: CP606(both sides) (ii) depth of mastic: 15mm (iii) backing material: Mineral wool (iv) Aperture size: 600mm (L) x 150mm (D) x 30mm (W) (v) gap faces: Steel/AAC



澳門特別行政區政府  
 Governo da Região Administrativa Especial de Macau  
 消防局  
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頁編號 2/2  
 Pág. n.º 0488/GEL/DPI/2020  
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 Inf. n.º 17, 02, 2020  
 日期:  
 Data

2.	Mineral Wool	品牌：ROCKWOOL 型號：ThermalRock S60 厚度：100mm 密度：60kg/m <sup>3</sup>
3.	Angle	材質：Mild Steel 尺寸：75mm x 75mm x 6mm 固定：Fixed with cement mortar

1.2 根據遞交的資料有以下分析結果：

1.2.1 “CP 606 Intumescent Joint Filler”，製造商：Hilti，經 BS476:Part20 檢驗，此防火填充材料的耐火隔熱性達到 245 分鐘，耐火完整性達到 245 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 的分析結果，本局對 “CP 606 Intumescent Joint Filler”，製造商：Hilti，此防火填充材料的耐火隔熱性達到 245 分鐘，耐火完整性達到 245 分鐘沒有異議，然而，上述產品並不具備獨立之耐火能力；因此，如將此組件應用於不同組合型式使用時，應按照實際用途而作出相應評估；但最終決定仍須徵詢權限部門（土地工務運輸局）之意見。



吳卓斌  
 首席消防員



**APPROVED**

# Certificate of Compliance

This certificate is issued for the following firestopping products:

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

**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](http://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



Member of the FM Global Group

Issued: June 30, 2016



# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20160930-R13240  
**Report Reference** R13240  
**Issue Date** 2016-September-30

**Issued to:** Hilti Construction Chemicals, Div of Hilti Inc.  
5400 S 122<sup>nd</sup> East Ave  
Tulsa, OK 74146

**This is to certify that representative samples of** Fill, Void or Cavity Materials  
Fill, Void or Cavity Materials Certified for Canada

CP 606 Sealant for use in Through-Penetration Firestop, Joint in wall and partition Systems as currently described in the UL Fire Resistance Directory and in the Products Certified for Canada Directory.

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

**Standard(s) for Safety:** ANSI/UL 1479, "Fire Tests of Through-Penetration Firestops,"  
ANSI/UL 2079, "Tests for Fire Resistance of Building Joint Systems,"  
CAN/ULC-S115, "Standard Method of Fire Tests of Firestop Systems."

**Additional Information:** See the UL Online Certifications Directory at [www.ul.com/database](http://www.ul.com/database) for additional information

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

Look for the UL Certification Mark on the product.



Bruce Mahrenholz, Director North American Certification Program

UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at <http://ul.com/aboutul/locations/>



Attn. : To whom it may concern

Date : 26 September 2023

Ref. : 080/FP/DY/23

Subject : Country of Origin- Hilti CP 606 Flexible Firestop Sealant

Dear Sir / Madam,

Enclosed please find the information of Hilti CP 606 Flexible Firestop Sealant

Brand Name : Hilti

Model Name : Hilti CP 606 Flexible Firestop Sealant

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 : Germany

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](mailto: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 | F +852-2954 1751  
[www.hilti.com.hk](http://www.hilti.com.hk)

3<sup>rd</sup> July 2017

To Whom It May Concern:

**Re: Hilti CP 606 Flexible Firestop Sealant – LEED info.**

- The Hilti CP 606 Flexible Firestop Sealant is manufactured in Germany.
- The metal portions of the collars are recyclable.
- There is no recycled content in Hilti CP 606 Flexible Firestop Sealant and it cannot be recycled.
- The Hilti CP 606 Flexible Firestop Sealant does not share any rapidly renewable materials.
- The VOC content of Hilti CP 606 Flexible Firestop Sealant is 75g/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 Technical Representatives or Customer Service Hotline at 8228-8118.

Yours sincerely,



Dorothy Wai  
Product Manger

**To whom it may concern**

Date: 22<sup>nd</sup> 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, CP606 Flexible Firestop Sealant 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-S ACR; CP 606

## Safety Data Sheet

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

Issue date: 08/02/2021

Revision date: 08/02/2021

Supersedes: 02/10/2019

Version: 4.7

### SECTION 1: Identification

#### 1.1. GHS Product identifier

Product form	Mixture
Trade name	CFS-S ACR; CP 606
Type of product	Sealants
Product code	BU Fire Protection



#### 1.2. Other means of identification

No additional information available

#### 1.3. Recommended use of the chemical and restrictions on use

Use of the substance/mixture	Flexible firestop sealant
Recommended uses and restrictions	For professional users only
Recommended use	Adhesives, sealants

#### 1.4. Supplier's details

##### 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](mailto:hksales@hilti.com)

##### Department issuing data specification sheet

Hilti AG  
Feldkircherstraße 100  
9494 Schaan - Liechtenstein  
T +423 234 2111  
[chemicals.hse@hilti.com](mailto:chemicals.hse@hilti.com)

#### 1.5. Emergency phone number

Emergency number	Schweizerisches Toxikologisches Informationszentrum – 24h Service +41 44 251 51 51 (international) +852 27734 700
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### SECTION 2: Hazard identification

#### 2.1. Classification of the substance or mixture

##### Classification according to the United Nations GHS

Not classified

#### 2.2. GHS Label elements, including precautionary statements

##### Labelling according to the United Nations GHS

#### 2.3. Other hazards which do not result in classification

No additional information available

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Not applicable

# CFS-S ACR; CP 606

## Safety Data Sheet

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

### 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 necessary 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 inhalation	Get medical advice/attention if you feel unwell. Allow affected person to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact	Wash skin with plenty of water. If skin irritation occurs: Get medical advice/attention. Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
First-aid measures after eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.
First-aid measures after ingestion	Get medical advice/attention if you feel unwell. Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

### 4.2. Most important symptoms/effects, 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 immediate medical attention and special treatment needed, if necessary

No additional information available

## SECTION 5: Fire-fighting measures

### 5.1. Suitable extinguishing media

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

### 5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire	Carbon dioxide. Carbon monoxide.
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### 5.3. Special protective actions for fire-fighters

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.
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#### 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.



# CFS-S ACR; CP 606

## Safety Data Sheet

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### SECTION 9: Physical and chemical properties

#### 9.1. Basic physical and chemical properties

Physical state	Solid
Appearance	Pasty
Molecular mass	Not determined
Colour	red. white. Grey.
Odour	characteristic.
Odour threshold	Not determined
Melting point	Not applicable
Freezing point	Not available
Boiling point	Not available
Flammability (solid, gas)	Not applicable, Non flammable.
Explosive limits	Not applicable
Lower explosive limit (LEL)	Not applicable
Upper explosive limit (UEL)	Not applicable
Flash point	Not applicable
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
pH	≈ 9 Not applicable
pH solution	Not available
Viscosity, kinematic (calculated value) (40 °C)	Not applicable
Partition coefficient n-octanol/water (Log Kow)	Not available
Vapour pressure	Not available
Vapour pressure at 50 °C	Not available
Density	1.6 g/cm <sup>3</sup>
Relative density	Not available
Relative vapour density at 20 °C	Not applicable
Solubility	Not available
Particle size	Not available
Particle size distribution	Not available
Particle shape	Not available
Particle aspect ratio	Not available
Particle specific surface area	Not available

#### 9.2. Data relevant with regard to physical hazard classes (supplemental)

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.





# CFS-S ACR; CP 606

## Safety Data Sheet

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

### 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: ≈ 9 Not applicable
Serious eye damage/irritation	Not classified pH: ≈ 9 Not applicable
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-S ACR; CP 606	
Persistence and degradability	Not established.



# CFS-S ACR; CP 606

## Safety Data Sheet

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

### 12.3. Bioaccumulative potential

CFS-S ACR; CP 606	
Bioaccumulative potential	Not established.

### 12.4. Mobility in soil

CFS-S ACR; CP 606	
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. Disposal methods

Waste treatment methods	Dispose in a safe manner in accordance with local/national regulations.
Product/Packaging disposal recommendations	Recycle the material as far as possible.
Additional information	European waste catalogue: 08 04 10 waste adhesives and sealants other than those mentioned in 08 04 09.

## SECTION 14: Transport information

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

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

### 14.6. Special precautions for user

#### Overland transport

Not regulated

#### Transport by sea

Not regulated



# CFS-S ACR; CP 606

## Safety Data Sheet

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

### Air transport

Not regulated

### Rail transport

Not regulated

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

Not applicable

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations specific for the product in question

No additional information available

## SECTION 16: Other information

SDS Major/Minor	None
Issue date	08/02/2021
Revision date	08/02/2021
Supersedes	02/10/2019
Other information	None.

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*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.*

