



Hilti CP643N Firestop Collar

Submission Folder

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Firestop collar CP 643 N



APPLICATIONS

- Plastic pipes with diameters from 20 - 160 mm
- Suitable for PVC, PE and HDPE pipes
- For use in walls and floors
- Waste water pipes, fresh water pipes, drinking water pipes

ADVANTAGES

- Latch mechanism for quick and easy closure
- Allows correct installation where space is tight
- Flexible tab positioning for convenient fastening
- Ready-to-use product



Seismic

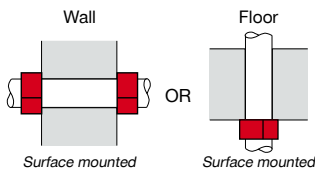


Low VOC



Mould & Mildew

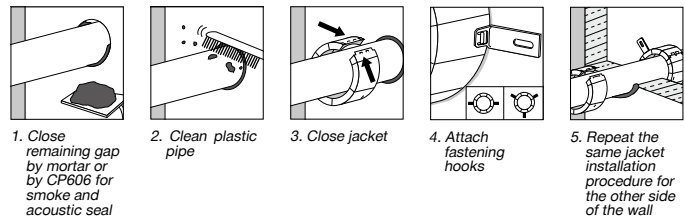
Fixing Method



Technical data

Base materials	Concrete, Masonry, Drywall
Expansion temperature (approx.)	250 °C
Expansion ratio (unrestricted, up to)	1:17
Storage and transportation temperature range	-5 - 50 °C

Application Procedure



Order Now

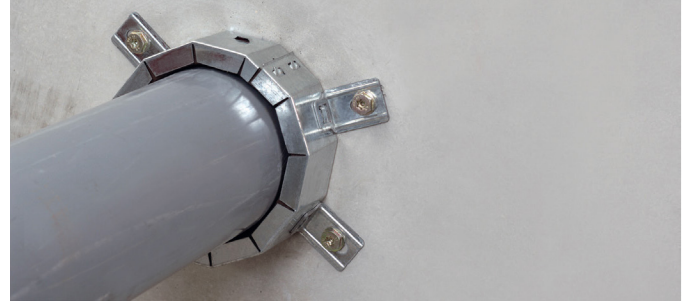


Ordering designation	Pipe diameter - range	Collar outside diameter	Package contents	Sales pack quantity	Item number
CP643 1.5"/50 N (A2 SS) + HSA-R M6 5/-/-	20 - 51 mm	67 mm	2x Std stud anchor HSA-R M6x50 5/-/-, 1x Firestop Jacket CP 643-50/1.5" N (A2 S.S)	1 pc	3503533
CP643 2"/63 N (A2 SS) + HSA-R M6 5/-/-	52 - 64 mm	82 mm	2x Std stud anchor HSA-R M6x50 5/-/-, 1x Firestop jacket CP 643-63/2" N (A2 S.S)	1 pc	3503534
CP643 2.5"/75 N (A2 SS) + HSA-R M6 5/-/-	65 - 78 mm	102 mm	3x Std stud anchor HSA-R M6x50 5/-/-, 1x Firestop jacket CP 643-72/2.5" N (A2 S.S)	1 pc	3503535
CP643 3"/90 N (A2 SS) + HSA-R M6 5/-/-	79 - 91 mm	117 mm	3x Std stud anchor HSA-R M6x50 5/-/-, 1x Firestop jacket CP 643-90/3" N (A2 S.S)	1 pc	3503536
CP643 4"/110 N (A2 SS) + HSA-R M6 5/-/-	92 - 115 mm	146 mm	3x Std stud anchor HSA-R M6x50 5/-/-, 1x Firestop jacket CP 643-110/4" N (A2 S.S)	1 pc	3503538
CP643 5"/125 N (A2 SS) + HSA-R M6 5/-/-	116 - 125 mm	166 mm	4x Std stud anchor HSA-R M6x50 5/-/-, 1x Firestop jacket CP 643-125/5" N (A2 S.S)	1 pc	3503539
CP643 6"/160 N (A2 SS) + HSA-R M6 5/-/-	126 - 170 mm	236 mm	4x Std stud anchor HSA-R M6x50 5/-/-, 1x Firestop jacket CP 643-160/6" N (A2 S.S)	1 pc	3503540

Ordering designation	Pipe diameter - range	Collar outside diameter	Sales pack quantity	Item number
Firestop Jacket CP 643-50/1.5" N (A2 S.S)	20 - 51 mm	67 mm	1 pc	3447172
Firestop jacket CP 643-63/2" N (A2 S.S)	52 - 64 mm	82 mm	1 pc	3447193
Firestop jacket CP 643-72/2.5" N (A2 S.S)	65 - 78 mm	102 mm	1 pc	3447194
Firestop jacket CP 643-90/3" N (A2 S.S)	79 - 91 mm	117 mm	1 pc	3447195
Firestop jacket CP 643-110/4" N (A2 S.S)	92 - 115 mm	146 mm	1 pc	3447196
Firestop jacket CP 643-125/5" N (A2 S.S)	116 - 125 mm	166 mm	1 pc	3447197
Firestop jacket CP 643-160/6" N (A2 S.S)	126 - 170 mm	236 mm	1 pc	3447198
CP 643-50/1.5" N	20 - 51 mm	67 mm	1 pc	304325
CP 643-63/2" N	52 - 64 mm	82 mm	1 pc	304326
CP 643-75/2.5" N	65 - 78 mm	102 mm	1 pc	304327
CP 643-90/3" N	79 - 91 mm	117 mm	1 pc	304328
CP 643-110/4" N	92 - 115 mm	146 mm	1 pc	304329
CP 643-125/5" N	116 - 125 mm	166 mm	1 pc	304330
CP 643-160/6" N	126 - 170 mm	236 mm	1 pc	304331

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

Firestop collar CP 644



APPLICATIONS

- Sealing flammable pipes from 180 mm to 250 mm in diameter in penetrations through fire compartment walls and floors

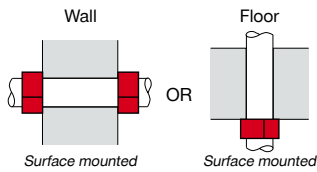
ADVANTAGES

- Ready-to-use firestop collar with a galvanized steel housing
- Latch mechanism for quick and easy closure
- Flexible hook positioning for convenient fastening

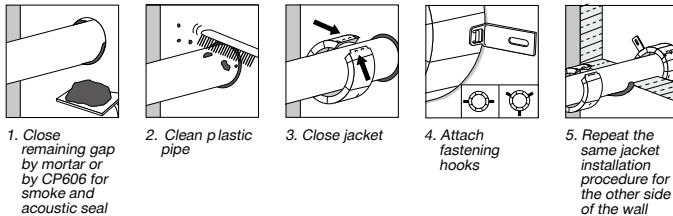
Technical data	
Base materials	Concrete, Masonry, Drywall
Expansion temperature (approx.)	210 °C
Expansion ratio (unrestricted, up to)	1:17
Storage and transportation temperature range	-5 - 50 °C
Colour	Metallic grey



Fixing Method



Application Procedure



Order Now



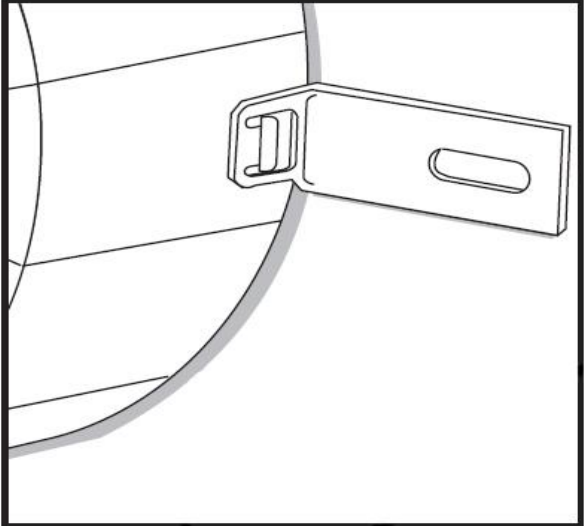
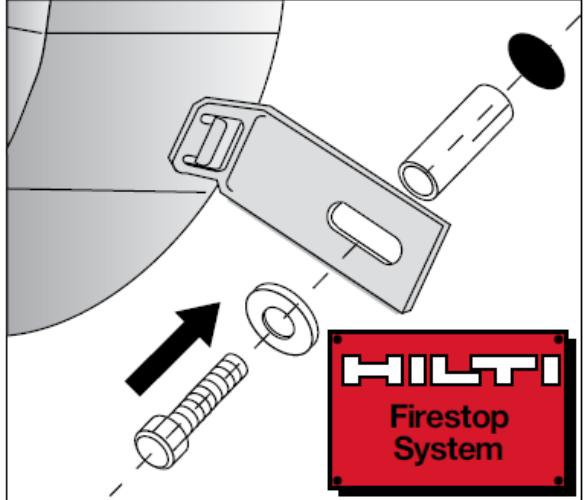
Ordering designation	Collar outer diameter	Sales pack quantity	Item number
CP 644-180/7"	228 mm	1 pc	304339 ¹⁾
CP 644-200/8"	257 mm	1 pc	304340 ¹⁾
CP 644-225/9"	289 mm	1 pc	304342 ¹⁾
CP 644-250/10"	319 mm	1 pc	304343 ¹⁾
CP 644-250/10" US	319 mm	1 pc	304344 ¹⁾

¹⁾ This is a non-stock item. For detailed lead time information please contact your Hilti representative.

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

Subject: Method Statement of CP 643N / CP 644
Material: CP 643N / CP 644 firestop collar and CP 606/ CP 601S Firestop sealant
Accessory: Nil

Setting Operation		
1	<p>Clean the plastic pipes. Expansion of the intumescent material during a fire acts to close the plastic pipe. Very dirty pipes (i.e. pipes with the remains of mortar) may lead to a delay in this closing action.</p> <p>Soiled plastic pipes should, therefore, be cleaned in the area where the CP 643N / CP 644 Firestop Collar is to be installed.</p>	
2	<p>Seal the opening if required. Gaps may be closed with CP 606 / CP 601S firestop sealant.</p>	
3	<p>Close the CP 643N / CP 644 Firestop Collar. Place the CP 643N / CP 644 Firestop Collar around the plastic pipe and lock the closure by applying firm pressure until it latches.</p>	

4	Attach fastening hooks. The fastening hooks can be attached to various points on the metal housing.	
5	<p>Fasten the CP 643N Firestop Collar. Only when fastened properly can CP 643N offer protection against fire.</p> <ol style="list-style-type: none">Mark the fastening points.Drill holes with a Hilti rotary hammer drill (i.e. TE 4-A18) or, depending on the base material, fasten using Hilti powder-actuated tool.To secure the CP 643N Firestop Collar, use Hilti anchors/fasteners.For maintenance reasons, a penetration can be permanently marked with an identification plate	

Safety precautions:

- Never use with metal pipes or with unapproved anchors or fasteners or in highly corrosive surroundings
- Keep out of the reach of children



檢驗報告

No. 2005-FRT45

產品名稱: CP 643 Firestop jacket

報告發致下列單位:

送檢單位: 喜利得(香港)有限公司
製造商: Hilti

報告日期: 2006年1月18日

澳門大學




檢驗報告

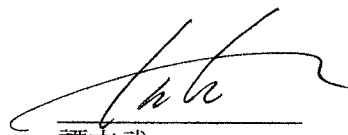
No: 2005-FRT45

產品名稱	CP 643 Firestop jacket
送檢單位名稱	喜利得(香港)有限公司
產品銷售代理	喜利得(香港)有限公司
製造商	Hilti
試件產地	德國
樣本技術數據	膨脹溫度: +160 °C 至 +170 °C 膨脹度: 約 40 倍 安裝後適用溫度: -30 °C 至 +100 °C
送檢日期	2005 年 12 月 27 日
送檢時附上報告	Warrington Fire Research Centre Ltd. 報告號碼: WARRES NO.128947/A WARRES NO.131014/A
檢驗項目	耐火性能
檢驗依據	BS476:Part 20
檢驗日期	2005 年 12 月 28 日
檢驗結論	經檢驗, 此膨脹性防火圈的隔熱性及完整性均能達到 245 分鐘。

檢測人員,

審核,


黃傑勇
澳門大學實驗員


譚立武
澳門大學機電工程系主任

1 檢測目的

- 1.1 根據英國標準 BS476 第 20 部份:1987，測試 CP 643 膨脹性防火圈之耐火性。

2 引言

- 2.1 根據送檢單位的要求，膨脹性防火圈之耐火測試需滿足英國標準 BS476 第 20 部份:1987 之要求。
- 2.2 試件由製造商於 2005 年 12 月 27 日安裝，並於 2005 年 12 月 28 日進行測試。

3 試件構造

- 3.1 試件由輕質混凝土及膨脹性防火圈組成。主要測試試件尺寸為 600mm x 600mm x 150mm，2 個不同直徑的膨脹性防火圈套在相對應直徑的 PVC 喉上並穿過輕質混凝土，並由支架承托，而 PVC 喉的總長度為 550 mm。試件以輕質混凝土安裝於檢測框內，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其材料是根據製造商所提供的資料而作。試件之厚度及結構由本中心之檢測員驗證。
- 3.3 試件由送檢單位安裝於檢測框上進行測試，該檢測框由檢驗單位提供。
- 3.4 試件在測試前數天內安裝。

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 5 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。
- 4.3 爐體內設有壓力計以監察爐體壓力。小型檢測爐的壓力變化並不明顯。
- 4.4 試件的背火面均設有熱電偶，以作監察溫度之用，熱電偶分佈位置見附錄 A 之圖 3 及圖 4。背火面所有熱電偶均用作判斷試件的絕熱性。
- 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 背火面及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 BSI 所指定溫度時間關係圖。
 - 5.1.2 由熱電偶所記錄背火面的溫度。
- 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 17°C。
- 5.5 在送檢單位的同意下, 試件在 245 分鐘終止整個測試。

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 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, 試件之完整性才被判斷為合格。

6.1.2 絕熱性 - 背火面最高平均溫度及單點溫度與超始溫度之升幅不得超過 140°C 和 180°C。

7 結論

7.1 根據 BS476 英國標準第 20 部分所制定的準則 — 完整性和絕熱性評估試樣的耐火性能測試結果如下：

完整性	不少於 245 分鐘
絕熱性	不少於 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, 應按照實際用途而作出相應之評估。

附錄 A
試件構造說明及附圖

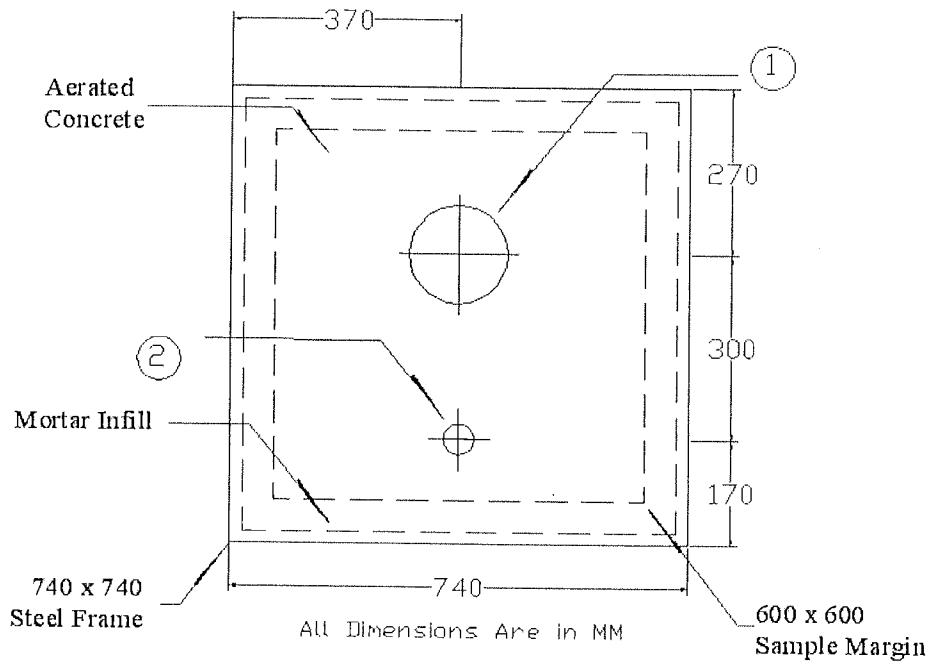


圖 1 試件之正視圖

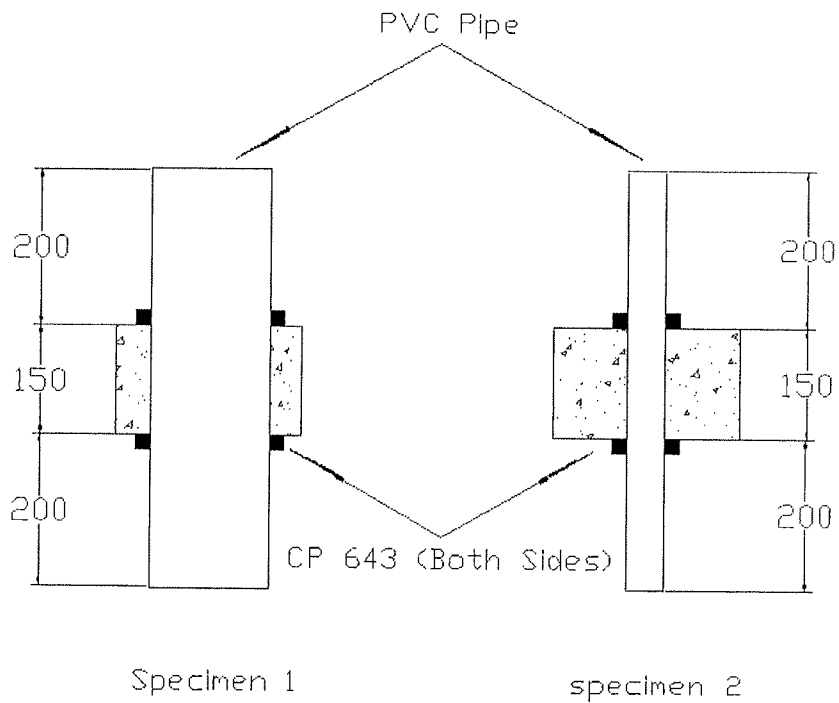


圖 2 試件之截面圖

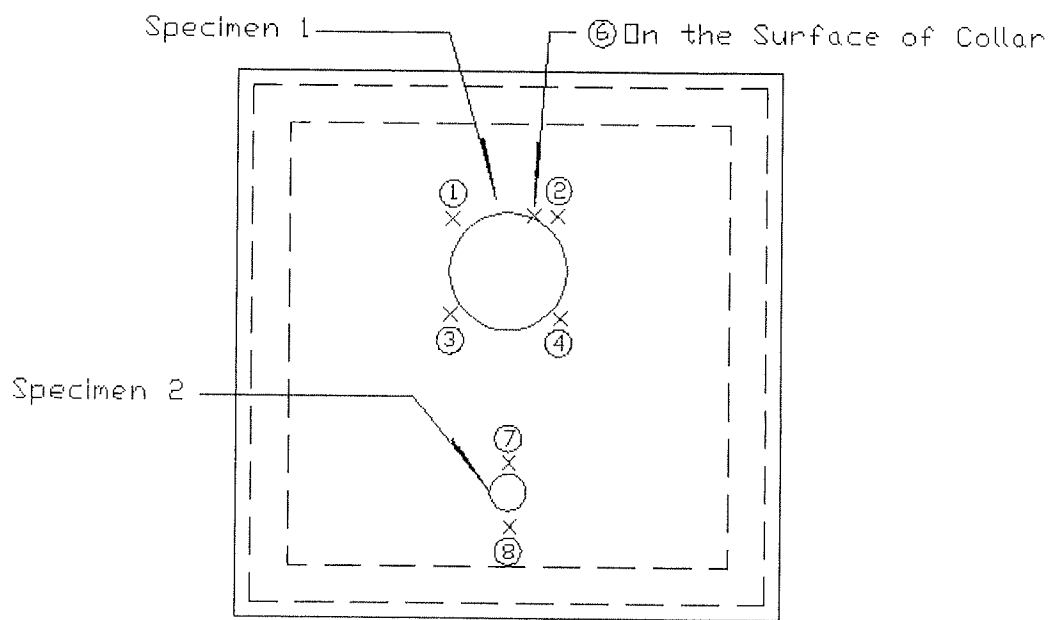


圖3 熱電偶分佈位置圖(一)

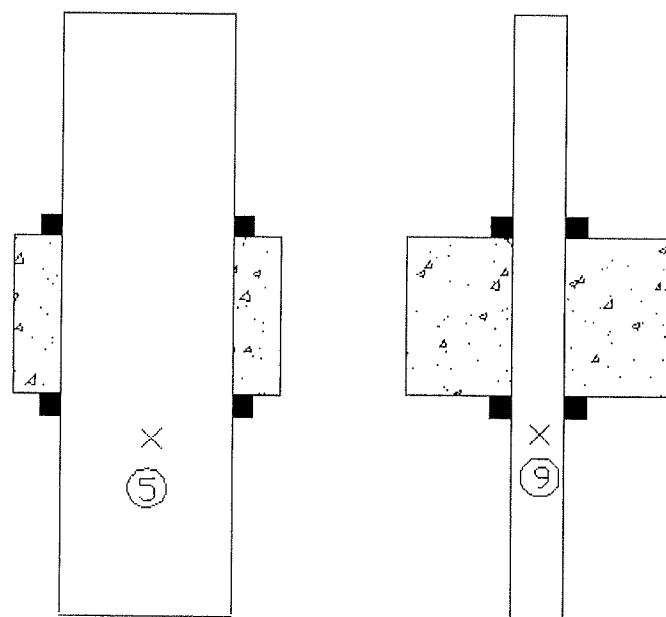


圖4 熱電偶分佈位置圖(二)

試件資料

(參照圖 1 至圖 4)

(除非特別指定, 否則全部數值都為標準值)

(全部資料和數值由喜利得(香港)有限公司提供)

表 1 材料列表

Item		Description	
1.	Specimen 1	(i) Product	CP643 – 160/6”
		(ii) Collar size	Diameter = 235.5mm Length = 48.2mm
		(iii) PVC Pipe	160mm dia.
2.	Specimen 2	(i) Product	CP643 – 50/1.5”
		(ii) Collar size	Diameter = 66.7mm Length = 22.4mm
		(iii) PVC Pipe	42mm dia.



附錄 B
測試數據

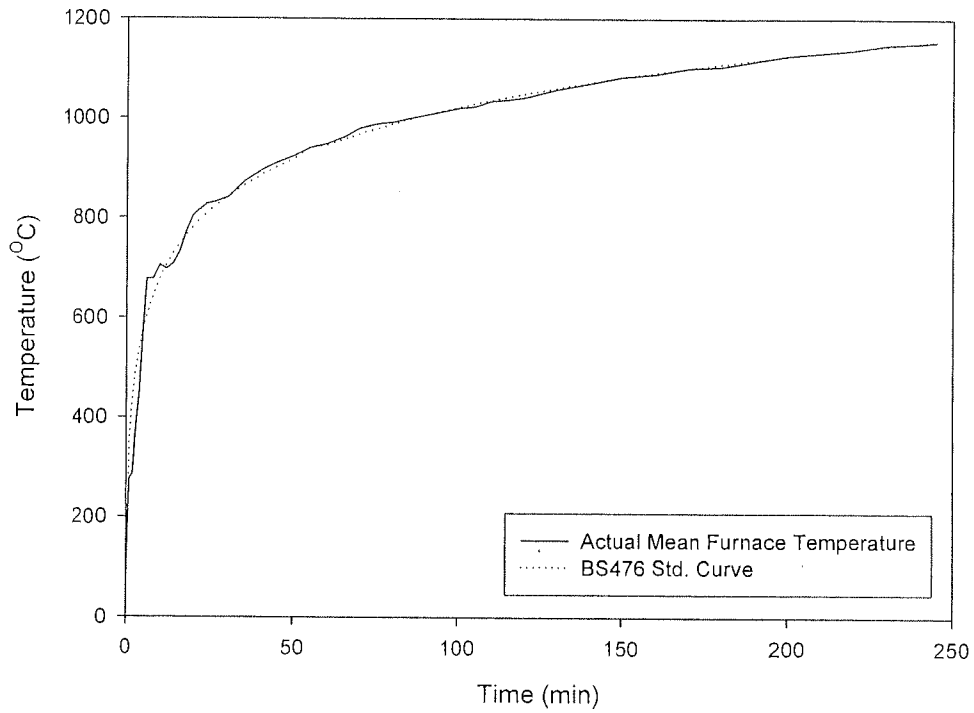


圖 5 平均爐溫與標準(溫度/時間)曲線圖

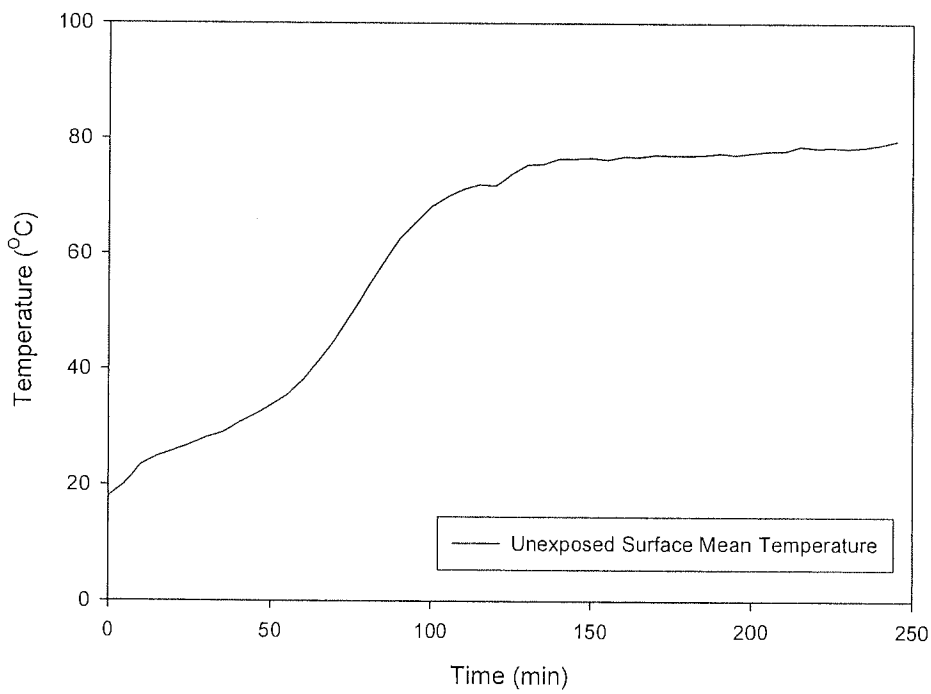


圖 6 背火面平均溫度/時間曲線圖

表 2 平均爐溫與標準溫度之比較

Time (minute)	Standard Furnace Temperature (°C)	Actual Furnace Temperature (°C)	BS476 Tolerance (%)	Percentage Difference (%)
0	20.00	72.14		
1	349.21	277.28		
2	444.50	286.21		
3	502.29	382.76		
4	543.89	451.18		
5	576.41	579.47		
6	603.12	677.60		
7	625.78	677.94		
8	645.46	678.48		
9	662.85	691.84		
10	678.43	704.59	±15	0.73
12	705.44	698.00		
14	728.31	707.73		
16	748.15	733.09		
18	765.67	775.47		
20	781.35	804.47		
22	795.55	817.14		
24	808.52	827.55		
26	820.45	830.53		
28	831.50	834.89		
30	841.80	840.29	±10	1.58
35	864.80	873.05		
40	884.74	894.32		
45	902.34	911.00		
50	918.08	924.22		
55	942.83	941.24		
60	945.34	948.40		
65	957.31	961.78		
70	968.39	979.91		
75	978.71	987.95		
80	988.37	991.97		
85	997.44	998.67		
90	1005.99	1006.15		
95	1014.08	1012.80		
100	1021.75	1019.88		
105	1029.06	1023.24		
110	1036.02	1033.93		
115	1042.67	1037.36		
120	1049.04	1041.33		
130	1061.02	1058.57		
140	1072.11	1070.22		
150	1082.44	1083.43		
160	1092.10	1088.99		
170	1101.18	1101.50		

表 2 平均爐溫與標準溫度之比較 (續)

Time (minute)	Standard Furnace Temperature (°C)	Actual Furnace Temperature (°C)	BS476 Tolerance (%)	Percentage Difference (%)
180	1109.74	1104.30		
190	1117.84	1115.62		
200	1125.52	1126.83		
210	1132.82	1131.91		
220	1139.79	1138.45		
230	1146.44	1148.74		
240	1152.82	1151.62		
245	1156.52	1154.68	±5	3.06



表 3 背火面單點及平均溫度 (°C)

Time (minute)	Thermocouple Number				
	1	2	3	4	5
0	19.32	18.80	18.41	18.91	20.47
5	22.02	19.38	19.67	19.45	29.52
10	21.16	20.51	20.08	20.02	47.85
15	23.34	21.07	21.22	20.74	53.26
20	24.49	22.13	21.24	21.43	52.34
25	24.49	23.12	22.47	21.82	50.72
30	26.08	23.97	22.62	22.38	49.00
35	25.39	24.78	23.27	22.65	47.45
40	26.89	25.86	23.72	23.32	47.34
45	28.76	26.42	23.40	23.86	46.68
50	30.08	27.97	23.16	24.69	46.34
55	31.53	30.00	24.08	25.75	45.92
60	34.22	33.97	24.70	27.55	45.73
65	37.53	39.97	26.22	30.46	45.33
70	42.76	45.11	29.61	34.15	44.86
75	47.45	52.14	33.86	39.24	44.93
80	52.30	59.21	39.42	45.75	44.93
85	57.34	64.62	45.22	51.88	45.59
90	61.64	69.07	51.60	58.46	46.12
95	65.26	71.35	56.90	63.92	46.68
100	68.17	73.58	62.30	68.26	47.38
105	70.69	73.90	65.85	70.87	47.96
110	71.59	75.24	68.79	73.55	48.84
115	73.82	75.76	71.44	75.17	49.49
120	75.21	75.78	72.59	76.35	49.73
125	75.50	77.35	74.58	78.01	50.04
130	77.99	78.64	76.63	79.78	50.52
135	77.42	78.38	76.22	79.51	51.49
140	78.64	79.03	77.53	80.43	52.23
145	77.59	79.58	77.22	80.32	53.15
150	77.40	79.60	77.37	80.13	53.83
155	77.20	78.71	76.79	78.88	53.99
160	77.18	79.67	77.66	79.93	54.18
165	77.77	79.56	77.48	79.27	54.14
170	78.90	79.93	77.86	79.71	54.32
175	77.96	79.73	77.75	79.45	54.29
180	78.88	79.91	77.66	79.14	54.32
185	78.68	80.43	77.72	79.54	54.40
190	79.47	80.94	78.27	79.75	54.36
195	79.25	80.63	77.79	79.43	53.81
200	78.77	81.11	78.25	79.49	54.45
205	80.54	81.13	78.31	79.58	54.97
210	80.61	81.61	78.07	79.65	55.08
215	80.80	83.10	78.97	80.65	56.05
220	80.45	82.31	78.71	80.45	55.89
225	80.56	82.60	79.08	80.21	56.03
230	80.70	81.92	78.93	79.60	56.09
235	81.33	81.61	79.08	79.89	56.35
240	82.12	82.82	79.38	80.50	56.99
245	82.60	83.96	80.15	81.29	57.36

表 3 背火面單點及平均溫度(續) (°C)

Time (minute)	Thermocouple Number				Average Temperature (°C)
	6	7	8	9	
0	16.49	16.31	16.28	16.08	17.90
5	16.83	17.03	16.92	20.47	20.14
10	19.02	18.80	17.82	24.96	23.36
15	21.97	19.50	18.55	23.93	24.84
20	24.33	20.49	19.11	26.20	25.75
25	26.33	21.61	19.63	31.11	26.81
30	27.86	23.23	20.80	36.75	28.08
35	28.98	25.32	22.24	40.95	29.00
40	30.40	27.91	25.10	45.15	30.63
45	31.22	30.46	27.97	49.04	31.98
50	32.37	33.66	31.75	53.15	33.69
55	33.00	37.15	35.82	56.00	35.47
60	34.31	41.08	41.48	59.42	38.05
65	36.24	46.34	48.67	62.52	41.48
70	38.06	51.60	55.06	64.73	45.10
75	40.02	57.10	60.46	69.49	49.41
80	41.94	62.93	67.67	73.84	54.22
85	44.02	67.23	72.57	77.64	58.46
90	46.52	72.81	77.18	80.61	62.67
95	48.05	75.91	79.32	82.38	65.53
100	50.24	79.27	81.94	83.30	68.27
105	51.75	80.70	82.93	85.20	69.98
110	53.04	81.24	83.78	85.62	71.30
115	54.53	80.54	84.92	82.66	72.04
120	55.61	79.86	85.49	76.61	71.91
125	56.82	80.80	87.30	84.52	73.88
130	57.41	83.17	89.62	85.68	75.49
135	58.57	83.45	88.46	86.80	75.59
140	59.01	84.59	90.02	87.50	76.55
145	59.84	84.63	89.29	87.37	76.55
150	60.37	84.90	89.25	87.48	76.70
155	60.83	85.40	88.51	87.02	76.37
160	61.35	85.68	89.73	87.04	76.94
165	61.22	86.06	89.32	86.87	76.85
170	61.71	86.43	89.60	86.95	77.27
175	61.51	86.58	89.67	87.17	77.12
180	61.97	86.43	89.49	86.63	77.16
185	61.88	86.69	90.02	85.55	77.21
190	62.39	86.56	90.10	85.95	77.53
195	62.65	86.30	89.25	86.28	77.27
200	63.11	86.60	89.93	86.32	77.56
205	63.68	86.54	89.89	86.45	77.90
210	63.88	86.41	89.56	86.58	77.94
215	64.58	86.93	90.48	87.39	78.77
220	64.69	86.93	89.82	86.80	78.45
225	65.21	86.95	89.71	86.43	78.53
230	64.84	86.71	89.38	87.70	78.43
235	65.43	86.84	88.90	87.92	78.59
240	65.72	86.80	89.25	87.87	79.05
245	66.22	87.46	90.30	88.24	79.73

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	開啓石油氣閥，測試開始。周圍環境溫度爲 17°C。
0:02	背火面週邊有煙溢出。
0:20	背火面情況沒有顯著變化。
0:30	棉墊測試 -- 棉墊沒有被點燃。
0:45	背火面情況沒有顯著變化。
1:00	棉墊測試 -- 棉墊沒有被點燃。 試件之隔熱性及完整性均能達到標準。
1:45	背火面位於上部分的 PVC 管週邊有少量煙溢出。
1:48	棉墊測試 -- 棉墊沒有被點燃。
2:00	試件之隔熱性及完整性均能達到標準。
2:15	背火面右上方輕質混凝土上出現裂痕。
2:20	於 2:15 提及之裂痕開始有煙溢出。
2:30	背火面右上方出現之裂痕延長。
2:45	棉墊測試 -- 棉墊沒有被點燃。
3:00	試件之隔熱性及完整性均能達到標準。
3:10	於 1:45 及 2:20 所提及之冒煙情況仍然持續。
3:30	於 3:10 提及之冒煙情況減弱。
3:45	背火面左上角的防火填塞變黑。
4:00	試件之隔熱性及完整性均能達到標準。
4:05	在送檢單位同意情況下，測試結束。
備註	背火面結構仍完整(見圖 18)



附錄 D
圖片

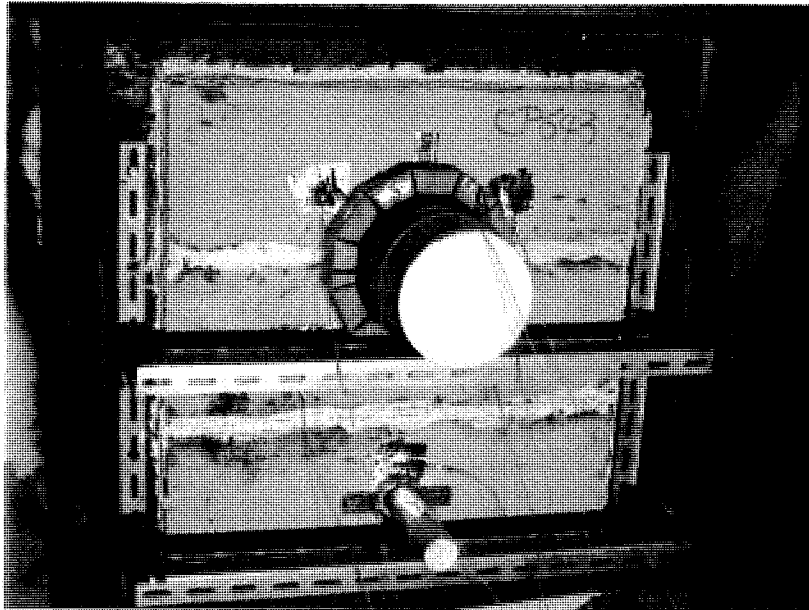


圖 7 測試前試件背火面

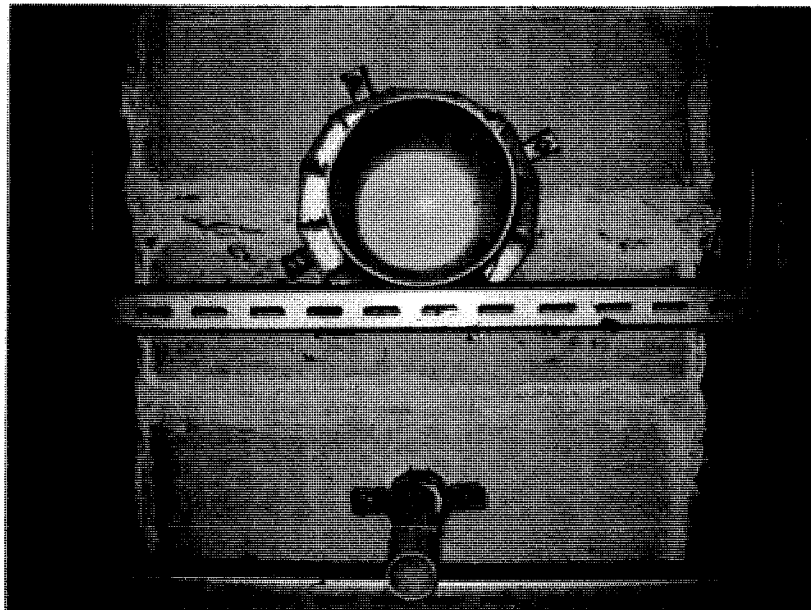


圖 8 測試前試件向火面

A handwritten signature in black ink, consisting of a stylized, cursive name.

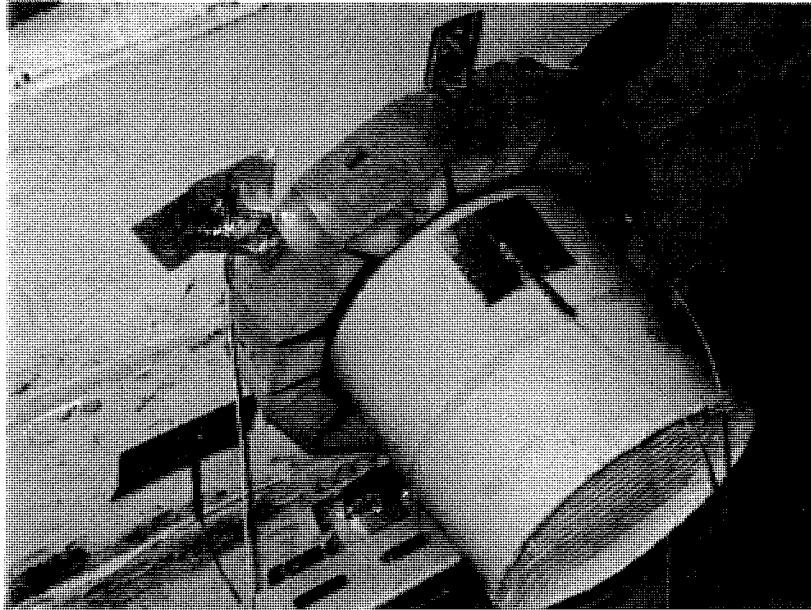


圖9 熱電偶位置分佈圖(一)

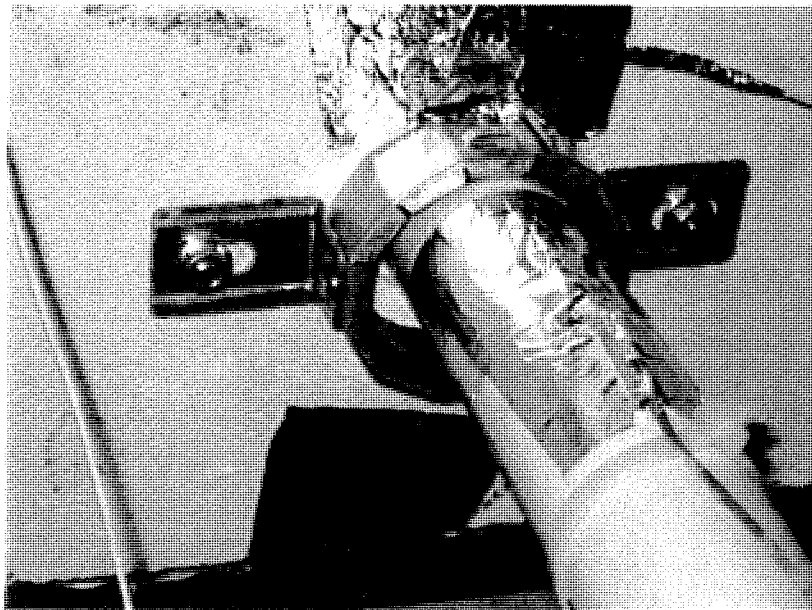


圖10 熱電偶位置分佈圖(二)

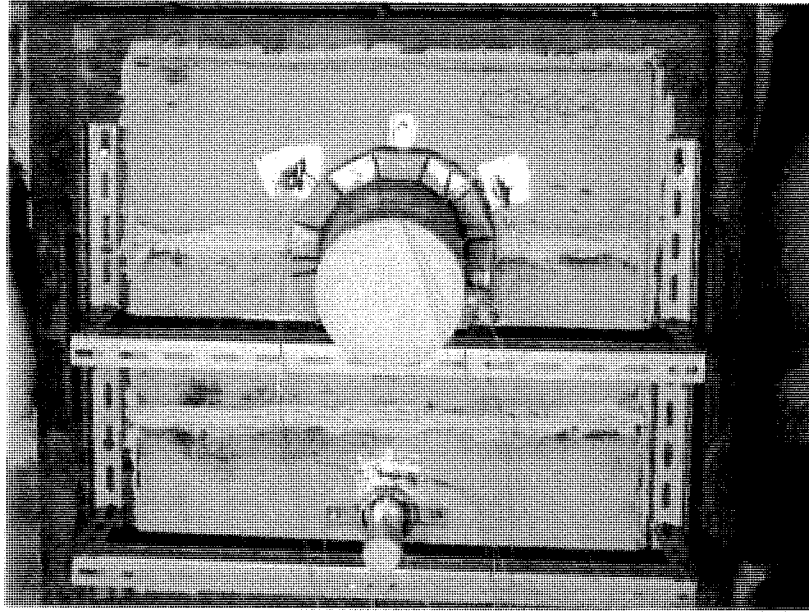


圖 11 測試 30min 時試件背火面

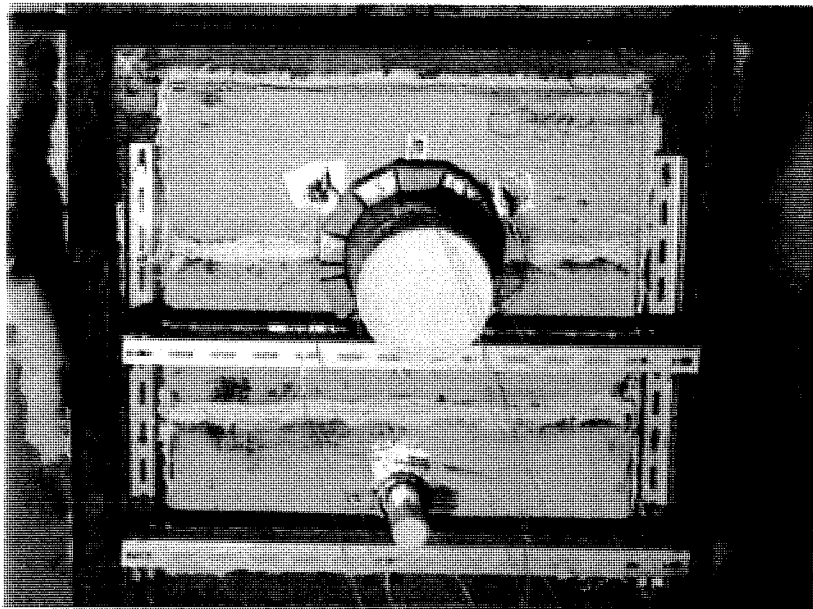


圖 12 測試 60min 時試件背火面

A handwritten signature in black ink, consisting of a series of loops and strokes, located to the right of the page number.

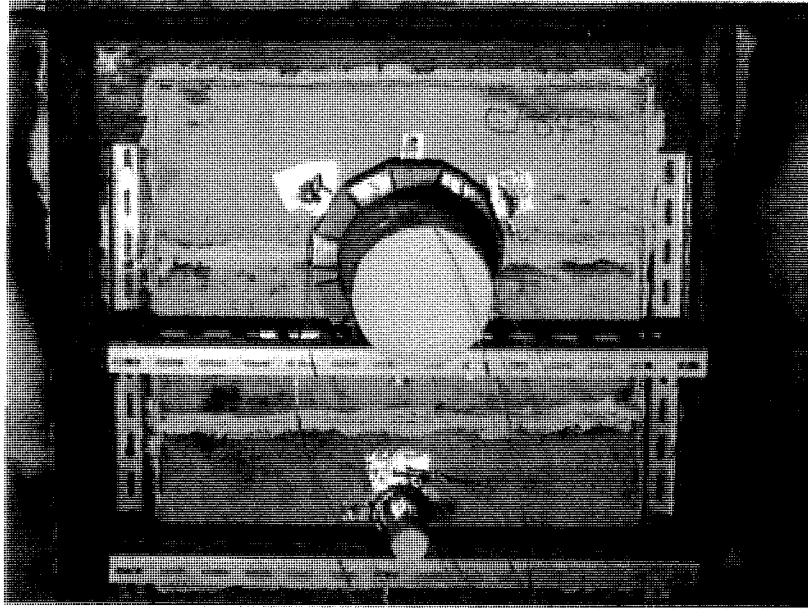


圖 13 測試 90min 時試件背火面

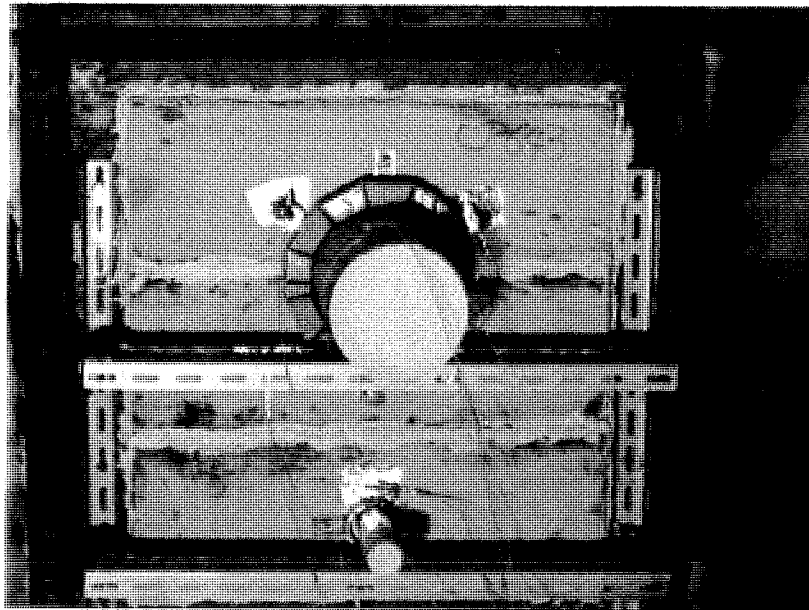


圖 14 測試 120min 時試件背火面

Handwritten signature

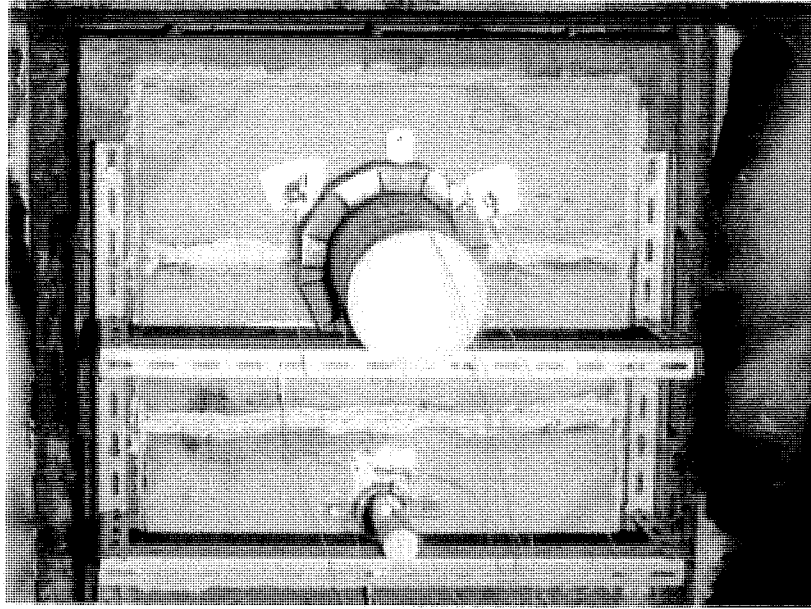


圖 15 測試 150min 時試件背火面

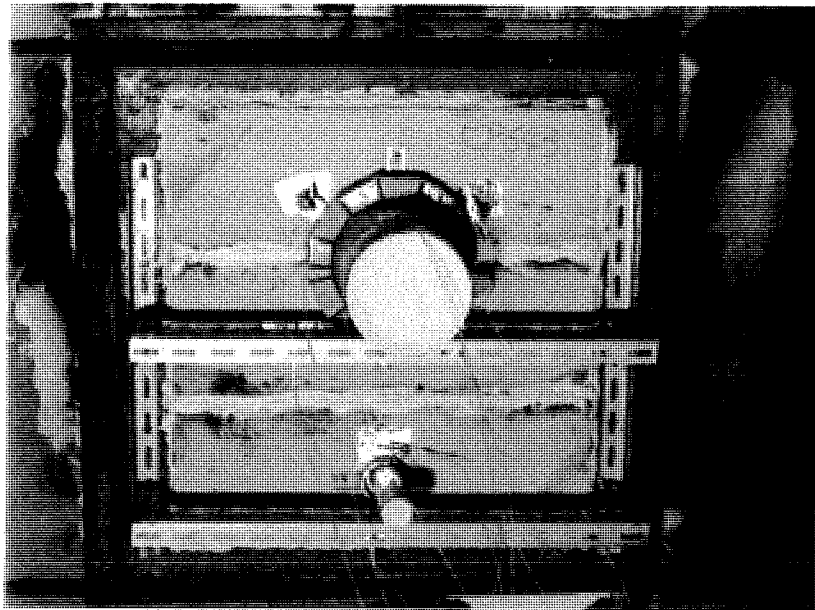


圖 16 測試 180min 時試件背火面

A handwritten signature in black ink, consisting of a stylized 'M' followed by a cursive 'Ke'.

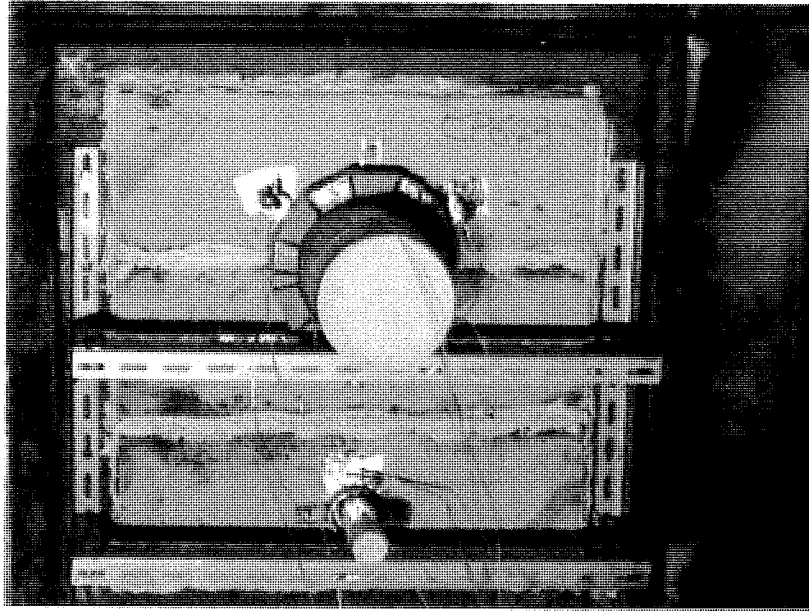


圖 17 測試 210min 時試件背火面

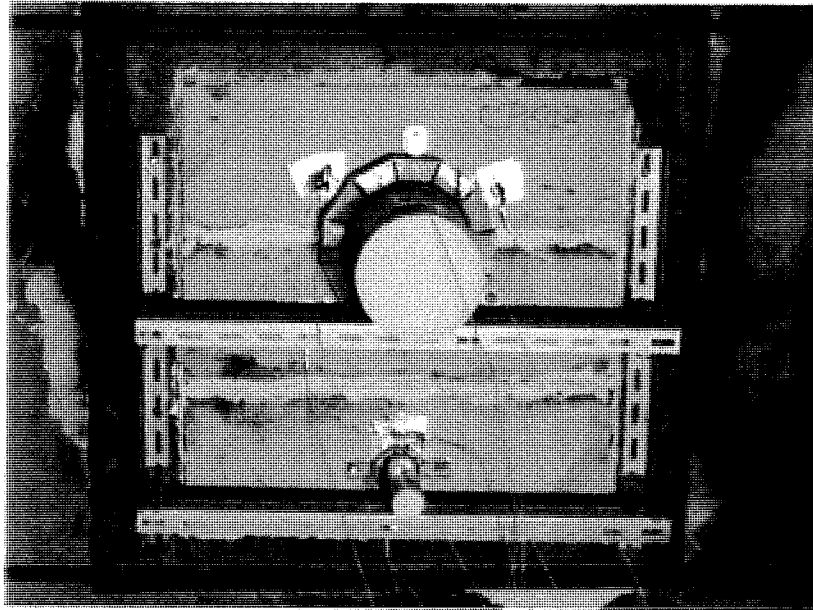


圖 18 測試 240min 時試件背火面

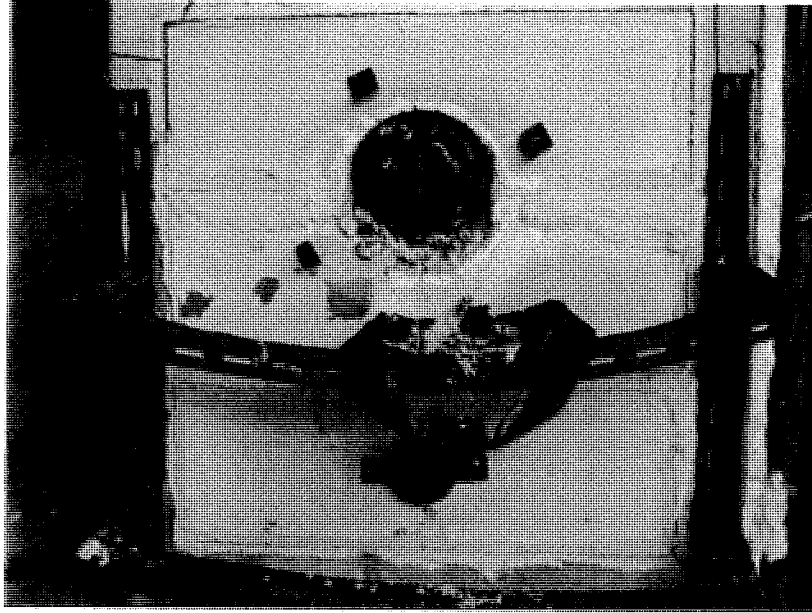


圖 19 測試後試件向火面



圖 20 測試後試件向火面大樣圖 (一)

Ken

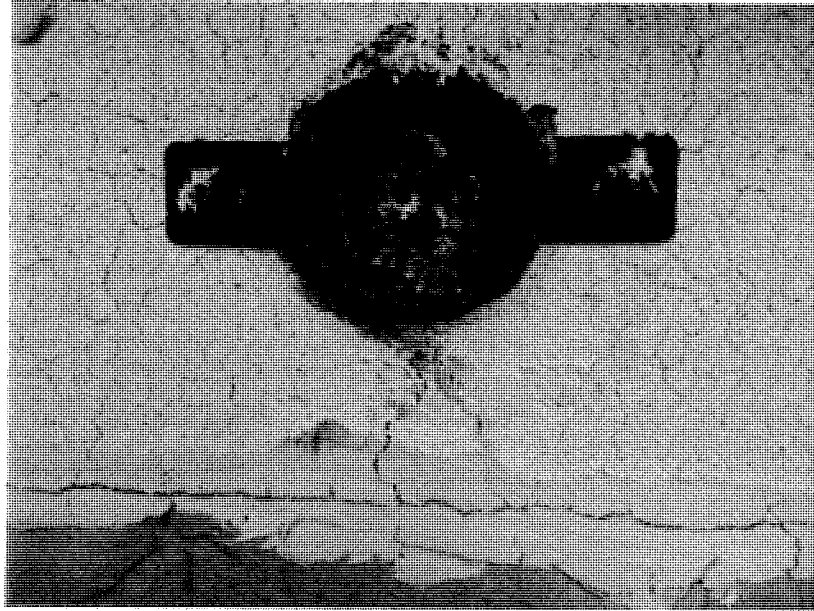


圖 21 測試後試件向火面大樣圖 (二)

[Handwritten signature]
[Handwritten initials]



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 1/1
 Pág. n.
 文件編號 273/DT/2006
 Inf. n.
 日期: 14 / 02 / 2006
 Data

審閱/Visto
 於 Em 14/02/2006
 技術廳廳長
 O Chefe do D.T.

意見書

事由：要求審批“HILTI”喜利得防火延燒產品 – CP 643 Firestop Jacket

參件： 進入編號 1102 (25/01/2006)
 喜利得(香港)有限公司來函編號：M-AL_LE06_06(18/01/2006)
 意見書編號 244/DT/2006 (09/02/2006)

- Ø1. 上述公司交來以下 CP 643 Firestop Jacket 的資料：
- a. 澳門大學按照 BS476 Part20:1987 檢驗依據測試標準發出的 CP 643 Firestop Jacket (膨脹性防火圈)檢驗報告複印本(No2005-FRT45)；
 - b. Underwriters Laboratories(UL Online Certifications Directory)XHJLR15431 Firestop Devices 資料；
 - c. Warrington 防火研究中心發出的測試報告複印本，編號為 WARRES No.128947/A &131014/A；
- Ø2. 根據上述的資料分析後，包括 CP 643 Firestop Jacket(膨脹性防火圈)的試件組合於試驗結果中顯示具 CRF245 能力。然而，如將此組件應用於不同組合形式使用時，應按照實際用途而作出相應評估；
- Ø3. 本局對 CP 643 Firestop Jacket (膨脹性防火圈)使用於合符《防火安全規章》規範的標準時沒有異議。但最終決定仍須徵詢權限部門(土地工務運輸局)之意見。

二零零六年二月十三日，於技術廳研究暨試驗科

研究暨試驗科科長

黃勁松
 副一等消防區長



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.

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 20160125-R15431
Report Reference R15431-19980323
Issue Date 2016-JANUARY-25

Issued to: HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC
5400 S 122ND EAST AVE
TULSA OK 74146

**This is to certify that
representative samples of**

FIRESTOP DEVICES
Firestop devices designated CP 643 50/1.5" N, CP 643 63/2" N, CP 643 75/2.5" N, CP 643 90/3" N, CP 643 110/4" N, CP 643 125/5" N, CP 643 160/6" N, CP 644 200/8" and CP 644 250/10" for use in specific through-penetration firestop systems. The various suffixes for the designations of the firestop devices indicates the nominal outside diameter of the pipe (mm/in.) on which the device is intended to be installed.

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

Standard(s) for Safety: UL 1479 STANDARD FOR FIRE TESTS OF PENETRATION FIRESTOPS.
CAN/ULC S115 STANDARD METHOD OF FIRE TESTS OF FIRESTOP SYSTEMS

Additional Information: See the UL Online Certifications Directory at 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. : 107/FP/DY/23

Subject : Country of Origin- Hilti CP643N Firestop Collar

Dear Sir / Madam,

Enclosed please find the information of Hilti CP643N Firestop Collar.

Brand Name : Hilti

Model Name : Hilti CP643N Firestop Collar

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.

Yours faithfully,



Dennis Yeung
Head of Product Leadership Strategy, F&P

Date: 23 August 2021

Ref.: 112/FP/RV/21

Subject: Hilti CP 643N/644 Firestop Collars – LEED Information

To Whom It May Concern:

- The Hilti CP 643N/644 Firestop Collars are manufactured in Germany.
- The Hilti CP 643N/644 Firestop Collars have a VOC content of 7.6 grams/liter.
- There is no recycled content in the Hilti CP 643N/ CP 644 Firestop Collars, and it cannot be recycled.
- The CP 643N/644 Firestop Collars do not contain any Rapidly Renewable Materials.
- The CP 643N/644 Firestop Collars are not regulated as a hazardous waste by the Federal EPA Standards.

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,



Ricky Yau
Head of Product Leadership Strategy
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, CP643N Firestop Jacket 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

Material Information Statement

Articles

According to Regulation (EC) 1907/2006, Article 32
Revision: 07.04.2020

Version: 18

1 Identification of the articles and of the company undertaking

1.1 Product identifier

Trade name:

- Firestop Bandage CFS-B / CP 646
- Firestop Back Pan Strip CFS-BPS
- Firestop Block CFS-BL / CFS-BL P
- Firestop Board CP 675
- Firestop Boot CFS-BO
- Firestop Box Insert
- Firestop Cable Collar CFS-CC / CFS-RCC / CFS-RCC EXT
- Firestop Cable Module CFS-T
- Firestop Cast-in device CP 680 / CP 681 / CFS-CID / CFS-CID MD P/M
- Firestop Coated Board CFS-CT B / CP670 / CP673 / CP676
- Firestop Collar CFS-C / CFS-C P
- Firestop Collar CP 643 / CP 644
- Firestop Composite Sheet CFS-COS
- Firestop Cord CFS-CO
- Firestop Cushion CP 651N
- Firestop Drop-In Device CFS-DID
- Firestop Edge of Slab QuickSeal CFS-EOS QS
- Firestop Endless Collar CFS-C EL
- Firestop Filler Module CFS-T FB
- Firestop Gangplate CFS-SL GP
- Firestop Module Box CFS-MB / CP 657
- Firestop Plug CFS-PL / CP 658
- Firestop Plug Seal CFS-T RR / CFS-T RRS
- Firestop Retrofit Sleeve CFS-SL RK
- Firestop Sleeve CP 645
- Firestop Sleeve Kit CFS-SL SK
- Firestop Speed Sleeve CFS-SL / CFS-SL GA / CP 653
- Firestop Top Track Seal CFS-TTS
- Firestop Top Track Seal CFS-TTS MD
- Firestop Top Track Cover CFS-TTS MD
- Firestop Top Track Plug CFS-TTS MD
- Firestop Top Track Seal CFS-TTS 212
- Firestop Top Track Seal CFS-TTS R
- Firestop Wedge Seal CFS-T WD120
- Firestop Wrap Strip CFS-W EL / SG / P / CP 648
- Foil Tapes CS-FT
- Intumescent façade cavity closer CP674
- Joint Sealing Tapes CS-JST
- Mineral Wool
- Mineral Wool Boards
- Multifunctional Tapes CS-MFT
- Pre-coated Mineral Wool Boards
- Smoke & Acoustic Track Seal CS-TTS SA
- Speed Plug CP 777
- Speed Strip CP 767

1.2 Application of the listed articles

Construction industry.

Refer to Hilti product literature, technical data sheets, 3rd party published listings and national approvals for specific application information. For more details, please contact your local Hilti organization through <http://www.hilti.group>

1.3 Manufacturer / Supplier

Hilti AG

Feldkircherstr. 100
FL-9494 Schaan
Liechtenstein

Customer Service

Phone +423 (0)844 84 84 85
Fax +423 (0)844 84 84 86

2 Other information

A Safety Data Sheet is not required due to the classification of these products as “articles” according to Regulation (EC) No. 1907/2006 of 18 December 2006 (EU) / 29CFR 1910.1200 (U.S.A.). Consequently, these products are exempted from CLP / OSHA Labeling and SDS requirements.

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Informing department:

chemicals.hse@hilti.com



Hilti CP 643N Firestop Collar Job Reference

Year	Project Name	Customer Name	Project type
2020	TUEN MUN AREA 56 (500),KWUN CHUI RD	KIN WIN ENGINEERING LIMITED	Residential
2020	HK PALACE MUSEUM (HKPM)	CHIT TAT ELECTRICAL ENGINEERING LTD	Community & Cultural
2020	3 LUNG KUI RD, BEACON HILL	WING FAT PLUMBING LIMITED	Residential
2020	KING LAM ST GOV'T DATA CENTRE	PRESTO ENGINEERING COMPANY LIMITED	Office
2020	HKIA AIRPORT SKY CITY REGAL HOTEL	LEUNG YIU KEE	Hospitality
2020	CHOI FOOK ESTATE PH3& SPORTS CENTRE	PAUL Y. GENERAL CONTRACTORS LIMITED	Residential
2020	New - Office - 123 Hoi Bun Road, Kwun Tong	TOKU CONSTRUCTION COMPANY LIMITED	Office
2020	New - Office - (KCTL 517) 83 Tai Lin Pai Road, Kwai Chung	SHUN HING E & M ENGINEERING LTD	Office
2020	TKO LOHAS PARK PH8 (SITE H)	PRACTICAL ENGINEERING (HONG KONG)	Residential
2020	OCEAN PARK WATER PARK	ALLIED STATES ENGINEERING LTD	Sport & Recreation
2021	REHAB COMPLEX (SIU LAM HOSPITAL)	MERRY CHINA ASIA LTD	Health
2021	SCHOOL - EXTENSION (VICTORIA SHANGHAI ACADEMY)	KEIO ENGINEERING COMPANY LIMITED	Education
2021	Unspecified - Infrastructure - Liantang /Heung Yuen Wai	SOUTH TECHNICAL LIMITED	Infrastructure
2021	New - Residential - (Tseung Kwan O Town Lot 70) Site N, 1 Lohas Pa	WING SHING ENGINEERING	Residential
2021	KAI TAK INLAND REVENUE TOWER	MAJESTIC ENGINEERING CO LTD	Office
2021	M PLUS-WEST KLN	INNOTECH ENGINEERING LIMITED	Community & Cultural
2021	SHA TIN WATER TREATMENT WORKS - SOUTH WORKS (1/WSD/	ATAL ENGINEERING LIMITED	Utilities
2021	KWONG WAH HOSPITAL PH2	KIN WIN ENGINEERING LIMITED	Health
2021	KAI TAK AREA 4B, SITE 3, NKIL 6574	MAJESTIC PLUMBING ENGINEERS LTD	Residential
2021	ARENDELLE (FROZEN) - DISNEYLAND	`	Sport & Recreation
2022	R6 TKO-LAM TIN TUNNEL NE/2015/01	TIME CONCEPT CONSTRUCTION LIMITED	Infrastructure
2022	UNITED CHRISTIAN HOSPITAL	ASSOCIATED ENGINEERS, LIMITED	Health
2022	SUN TIN WAI ESTATE COMMERCIAL CTR	GLOBALINK CONSTRUCTION ENGINEERING	Retail
2022	YAU MA TEI- KWONG WAH HOSPITAL PHASE 1	ASSOCIATED ENGINEERS, LIMITED	Health
2022	HK POST HEADQUARTERS	YIU HONG SHING ENGINEERING CO LTD	Office
2022	KWONG WAH HOSPITAL PH2	KIN WIN ENGINEERING LIMITED	Health
2022	MA KOK ST, TWTL 428	KAI CHUEN ENGINEERING (H.K.) CO LTD	Office
2022	6-8 LAI YING ST, NKIL 6549	AQUASCAPE LIMITED	Residential
2022	KAI TAK AREA 4B, SITE 3, NKIL 6574	MAJESTIC PLUMBING ENGINEERS LTD	Residential
2022	HKIA SKY CITY COMPLEX BLDG A2&A3	FORTUNE PLUMBING AND ELECTRICAL	Retail
2023	KAI TAK AREA 4B, SITE 1, NKIL 6576	AQUASCAPE LIMITED	Residential