



ISO 14001 登錄證書
編號：3X0E002-00號



ISO 9002 登錄證書
編號：3X0Y001-03號



互豐 PVC 止水帶

UNIQUE PVC WATER STOP



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互豐PVC止水帶 • Unique PVC Water Stop

在混凝土構造物方面，防止漏水這項工程雖然所佔工程費用不高，但對建築物的品質及效益卻是影響深遠。鑑於各項混凝土作業中的防水施工困擾，本公司特推出了在設計上及施工效果上均極為理想的PVC止水帶—具有多種形狀、規格及堅韌耐用之特性。埋設於混凝土中，能承受混凝土收剪斷應力。即混凝土於靜止狀態下及如上述之應力產生時，都能發揮防止漏水的功效。

本公司之止水帶目前已廣泛的使用於各大小土木、水利及建築工程中，並已獲得良好的口碑。

The water leakage protection engineering work in the concrete structures brings great and favorable impact on the quality and effect of the buildings, and yet is costs very little. In order to avoid all the problem existing in the execution of the water protection on various concrete operations, our company has developed and manufactured the PVC water stop which is extremely desirable for designing and operation, and features a variety of forms, specifications excellent resilience and durability.

Buried in the concrete, it can bear the tensile stress caused by the contraction of the concrete and the shearing stress formed by the changes at the joints of the concrete due to sinking of the floor pan. In other works under the static status of the concrete and the time when the above-said stress is generated, it can produce marked effect of water leakage protection. Currently the PVC water stop has been widely used in civil engineering water conservations and building engineering works with excellent public praise achieved.



◆ 特性說明 / DESCRIPTIONS OF FEATURES

• 種類多：

各種形狀皆經專家精心設計，類型多，能配合構造物作適當的選用，並能與混凝土堅固密接，達到完全止水。

• 材質優：

以特殊配方PVC塑膠製成，不腐不鏽、堅韌又富彈性、不易老化，長年埋設混凝土內亦不受酸、鹼、金屬鹽等浸蝕腐化。

• 重量輕：

PVC止水帶比重較其他材質為輕，包裝、搬運及施工都極輕便。

• 接合施工容易：

用美工刀即可裁切，以一般之焊槍、以同材質之軟質焊條焊接，施工迅速，且效果優良，為其他材質所不及，是最容易施工之止水材料。

• Great Category：

Every shape is elaborately designed by experts. Many models are ready to suit different construction, and can mix with concrete firmly to achieve complete water proof effect.

• Excellent Material：

Made of specially-formulated plastics, PVC water stop is non-corrosive, rustproof durable and resilient. Long buried in concrete, it will not be eroded by acid, alkali and metallic salt.

• Light weight：

The PVC water stop is lighter than other materials, thus it's much convenience for packing, transporting and installing.

• Easy Welding：

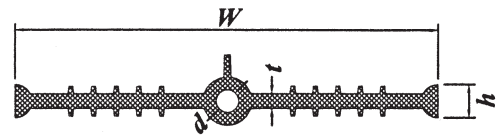
It may be cut with a snap-off cutter, and welded with soft welding rod of same quality and an ordinary welding gun. Its effect on stopping water during the implementation is excellent and no other materials can complete.



◆ 產品種類規格 / SPECIFICATIONS

1. WS-A 型

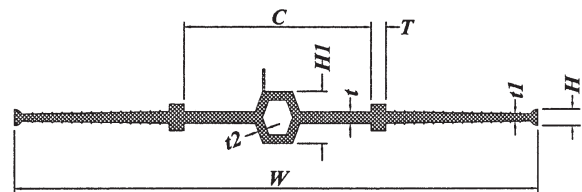
WS-A1~A9



單位：mm

種類 Item	規格 Spec.	寬度 Width (W)	厚度 Thickness (t)	d	h	鍵數 Key No	鍵高 (參考值) Key Height (Reference)
WS-A1	150x4	150 ± 4.5	4 ± 0.5	10 ± 12	10 以上 or over	4	2
WS-A2	150x9	150 ± 4.5	9 ± 0.9	10 ± 2	16 以上 or over	8	2
WS-A3	220x9	220 ± 5.0	9 ± 0.9	18 ± 2	16 以上 or over	10	2
WS-A4	225x4	225 ± 6.5	4 ± 0.5	10 ± 2	10 以上 or over	10	2
WS-A5	320x7	320 ± 9.5	7 ± 0.7	12 ± 2	12 以上 or over	8	4
WS-A6	400x8	400 ± 12	8 ± 0.8	18 ± 2	16 以上 or over	10	5
WS-A7	240x5	240 ± 7.0	5 ± 0.5	10 ± 2	12 以上 or over	10	2
WS-A8	225x8	225 ± 6.5	8 ± 0.8	12 ± 2	16 以上 or over	10	4
WS-A9	155x11	155 ± 4.0	11 ± 1.0	16 ± 2	20 以上 or over	6	-

WS-A10

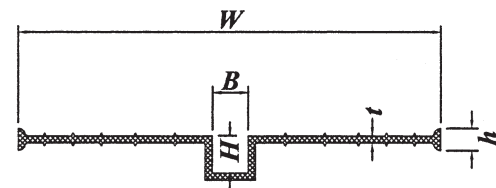


單位：mm

種類 Item	規格 Spec.	寬度 (B)	參考值 Reference Value			H	厚度 Thickness		
			C	T	H1		t	t1	t2
WS-A10	340x9	340 ± 10	125	10	35	11 以上 or over	9.0 ± 0.9	5.5 ± 0.5	6 (參考值) Reference value

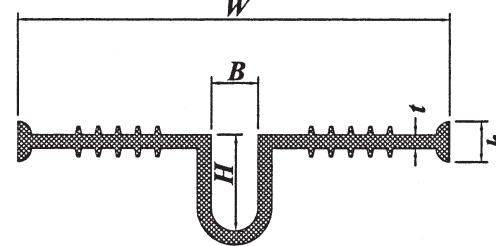
2. WS-B 型

WS-B1



WS-B2

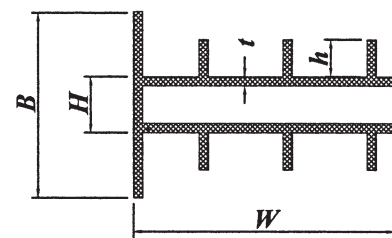
WS-B3



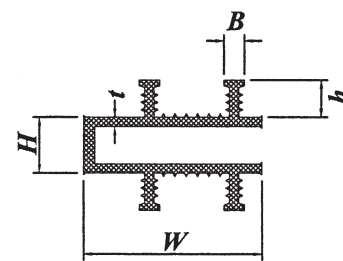
單位：mm

種類 Item	規格 Spec.	寬度 Width (W)	厚度 Thickness (t)	H	鍵數 Key No.	參考值 Reference value	
						B	H
WS-B1	225x4	225 ± 6.5	4 ± 0.5	10 以上 or over	10	18	20
WS-B2	230x7.5	230 ± 7.0	7.5 ± 0.7	22 以上 or over	10	25	52
WS-B3	120x5	125 ± 4.0	5 ± 0.5	20 以上 or over	6	20	40

WS-B4



WS-B7

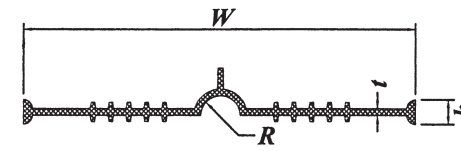


單位：mm

種類 Item	規格 Spec.	寬度 Width (W)	厚度 Thickness (t)	高度 Height (H)	h	參考值 Reference Value (B)
WS-B4	140x5	140 ± 5.0	5.0 ± 0.5	30 ± 4	20 以上 or over	100
WS-B7	100x5	100 ± 5.0	5.0 ± 0.5	35 ± 4	20 以上 or over	11

3. WS-C 型

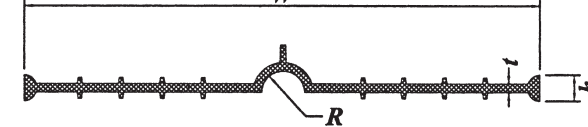
WS-C1



WS-C2

WS-C3

WS-C4



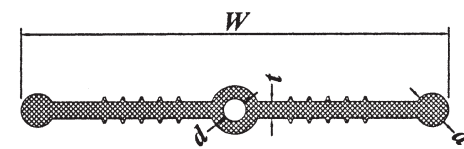
單位：mm

種類 Item	規格 Spec.	寬度 Width (W)	厚度 Thickness (t)	h	鍵數 Key No	參考值 Reference Value R
WS-C1	220x4	220 ± 6.5	4 ± 0.5	10 以上 or over	10	10
WS-C2	250x6	250 ± 7.5	6 ± 0.6	14 以上 or over	8	10
WS-C3	290x6	290 ± 8.5	6 ± 0.6	14 以上 or over	8	12
WS-C4	200x6	200 ± 6.0	6 ± 0.6	12 以上 or over	8	10

4. WS-E 型

WS-E1

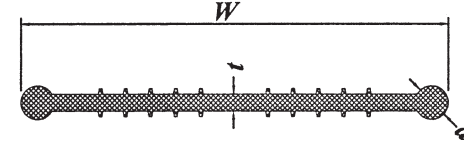
WS-E2



WS-E3

WS-E4

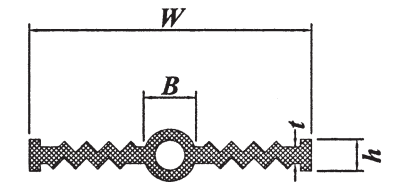
WS-E5



單位：mm

種類 Item	規格 Spec.	寬度 Width (w)	厚度 Thickness (t)	d	d'	鍵數 Key No.
WS-E1	150x9	150 ± 4.0	9 ± 0.9	19 ± 2	16 以上 or over	6
WS-E2	230x9	230 ± 7.0	9 ± 0.9	12 ± 2	16 以上 or over	10
WS-E3	150x9	150 ± 4.0	9 ± 0.9	-	16 以上 or over	6
WS-E4	230x9	230 ± 7.0	9 ± 0.9	-	16 以上 or over	10
WS-E5	250x11	250 ± 7.5	11 ± 1.0	-	16 以上 or over	5

5. WS-F 型

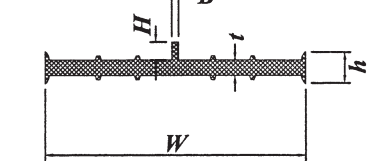


單位：mm

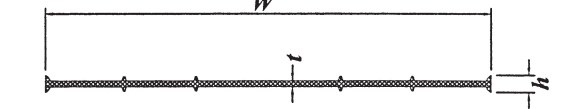
種類 Item	規格 Spec.	寬度 Width (W)	厚度 Thickness (t)	h	參考值 Reference Value (B)
WS-F	152x9	152 ± 4	9 ± 0.9	17 以上 or over	28

6. WS-G 型

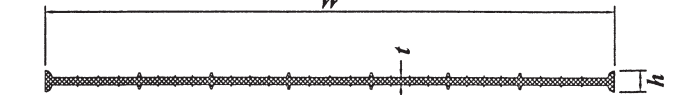
WS-G1



WS-G2



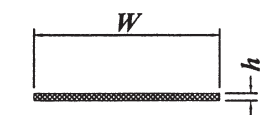
WS-G3



單位：mm

種類 Item	規格 Spec.	寬度 Width (W)	厚度 Thickness (t)	B	H	h	鍵數 Key No.
WS-G1	150x9	152 ± 4.0	9.0 ± 0.9	3 以上 or over	9 以上 or over	15 以上 or over	4
WS-G2	260x3.5	260 ± 7.5	3.5 ± 0.5	-	-	10 以上 or over	4
WS-G3	330x4.5	330 ± 10	4.5 ± 0.5	-	-	11 以上 or over	27

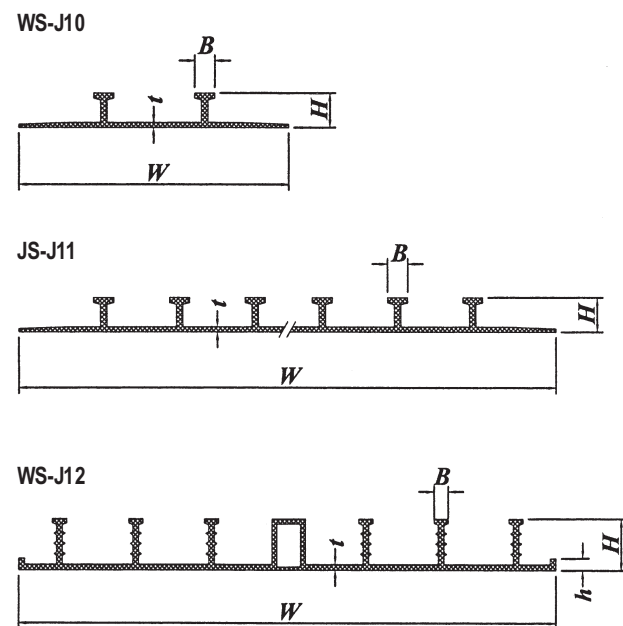
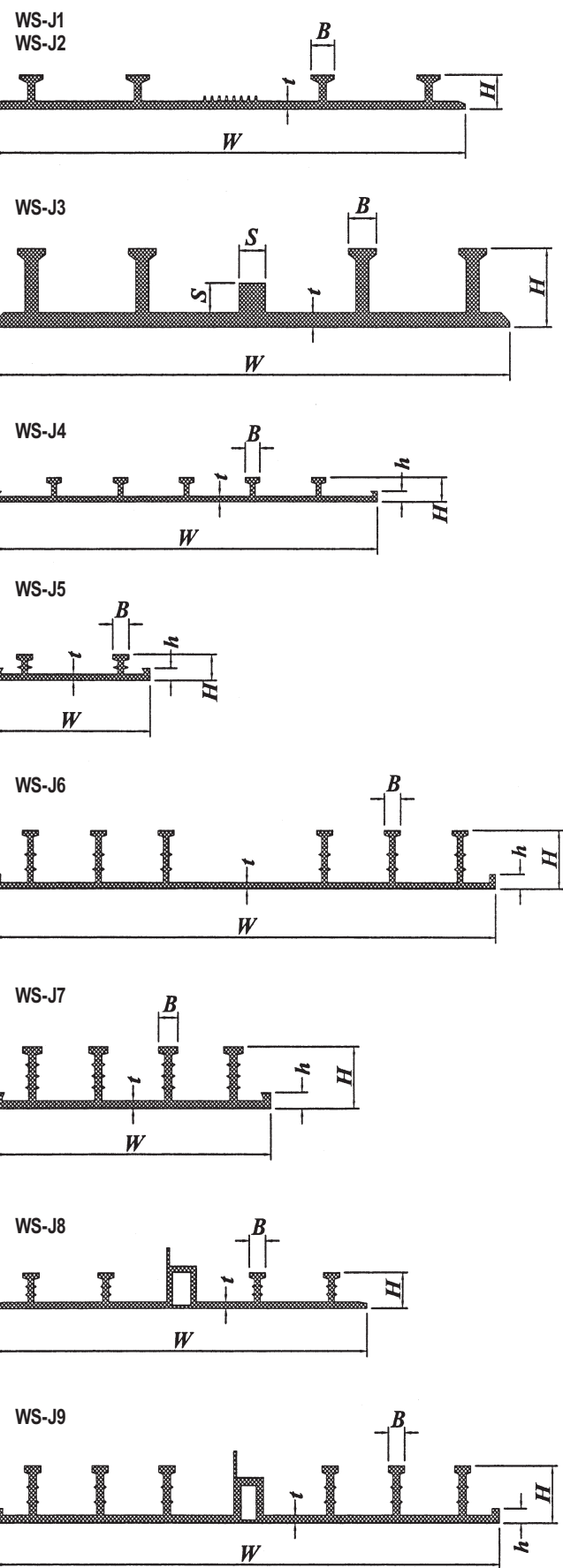
7. WS-1 型



單位：mm

種類 Item	規格 Spec.	寬度 Width (W)	厚度 Thickness (t)
WS-1	100x4	100 ± 3.0	4.0 ± 0.5

8. WS-J 型

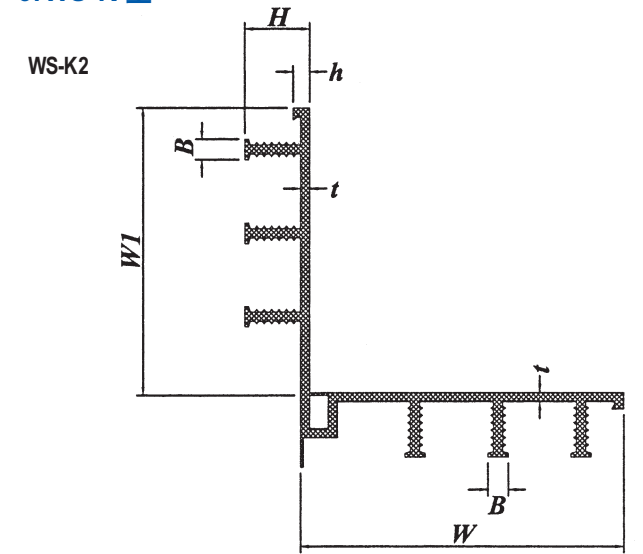


單位：mm

種類 Item	規格 spec	寬度 Width (W)	厚度 Thickness (t) (H)	鍵高 Key Height (B)	鍵寬 Key Weight	h	s
WS-J1	240x5	240 ± 7.0	5.0 ± 0.5	20 以上 or over	15 以上 or over	—	—
WS-J2	320x5	320 ± 10	5.0 ± 0.5	20 以上 or over	15 以上 or over	—	—
WS-J3	350x9	350 ± 10	9.0 ± 0.9	48 ± 3.0	19 以上 or over	—	18 ± 2.0
WS-J4	260x3.5	260 ± 7.5	3.5 ± 0.5	20 以上 or over	10 以上 or over	6 以上 or over	—
WS-J5	105x4.5	105 ± 4	4.5 ± 0.5	15 以上 or over	11 以上 or over	7 以上 or over	—
WS-J6	350x4.5	340 ± 10	4.5 ± 0.5	35 以上 or over	11 以上 or over	9 以上 or over	—
WS-J7	185x5.5	185 ± 5	5.5 ± 0.5	35 以上 or over	11 以上 or over	9 以上 or over	—
WS-J8	250x4.5	250 ± 7.5	4.5 ± 0.5	20 以上 or over	11 以上 or over	—	—
WS-J9	340x5.5	340 ± 10	5.5 ± 0.5	35 以上 or over	11 以上 or over	9 以上 or over	—
WS-J10	160x3	160 ± 5	3 ± 0.5	20 以上 or over	12 以上 or over	—	—
WS-J11	400x3	400 ± 10	3 ± 0.5	20 以上 or over	12 以上 or over	—	—
WS-J12	320x3.5	320 ± 10	3.5 ± 0.5	30 以上 or over	8.5 以上 or over	7 以上 or over	—
*WS-J1	240x5	240 ± 7.0	5.0 ± 0.5	18 以上 or over	15 以上 or over	—	—
*WS-J4	260x3.5	260 ± 7.5	3.5 ± 0.6	19 以上 or over	10 以上 or over	6 以上	—
*WS-J6	350x4.5	355 ± 10	4.5 ± 0.6	33 以上 or over	11 以上 or over	9 以上 or over	—
*WS-J9	340x5.5	355 ± 10	5.5 ± 0.6	33 以上 or over	11 以上 or over	9 以上 or over	—

註：*WS-J1、J4、J6、J9 為聚乙烯(PE)止水帶。
NOTE: *WS-J1、J4、J6、J9 these merterial are polyethylene.

9. WS-K 型



單位：mm

種類 Item	規格 Spec	寬度 Width (W)	高度 Height (W1)	厚度 Thickness (t)	鍵高 Key Height (H)	鍵寬 Key Weight (B)	h
WS-K2	180x160x5.5	180 ± 5.0	160 ± 5.0	5.5 ± 0.5	35 以上 or over	9 以上 or over	11 以上 or over

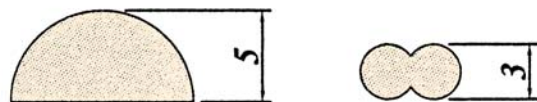


◆ 產品種類規格 / SPECIFICATIONS

◆ 止水帶專用焊條：

(材質與止水帶相同)

- 3m/m ϕ 雙股焊條
- 10m/m ϕ 半圓焊條



◆ Special welding rod for water stop:

(material should be same as water stop)

- 3m/m ϕ double strip welding rod
- 10m/m ϕ half circular welding rod

◆ 產品物性及化性規範 / FEATURES

PVC 止水帶 CNS 標準：

PVC Water Stop CNS Standard

項目	單位	試驗方法	CNS 標準		
Item	unit	Method	CNS Standard		
比重 Specific gravity	-	CNS 3896	1.4 以下 downward		
縱向拉力強度 Longitudinal tensile strength	kgf/cm ²	CNS3896	120 以上 upward		
縱向伸長率 Longitudinal elongation ratio	%	CNS 3896	250 以上 upward		
硬度 Hardnesse (shore A)	-	CNS3896	70 以上 upward		
剪力強度 Shear strength	kgf/cm ²	CNS3896	100 以上 upward		
老化試驗 Ageing test	縱向抗拉強度變化率 Longitudinal tensile strength variation	%	CNS 3896	+15 -10 以內 within	
	縱向伸長率變化率 Longitudinal elongation variation	%	CNS 3896	± 10 以內 within	
	重量變化率 Weight variation	%	CNS3896	± 10 以內 within	
耐藥品性 Chemical Resistance	鹼液 Alkaline liquid	縱向抗拉強度變化率 Longitudinal tensile strength variation	%	CNS 3896	± 20 以內 within
		縱向伸長率變化率 Longitudinal elongation variation	%	CNS 3896	± 20 以內 within
		重量變化率 Weight variation	%	CNS 3896	± 5 以內 within
	鹽水 Salt water	縱向抗拉強度變化率 Longitudinal tensile strength variation	%	CNS 3896	± 10 以內 within
		縱向伸長率變化率 Longitudinal elongation variation	%	CNS 3896	± 10 以內 within
		重量變化率 Weight variation	%	CNS 3896	± 2 以內 within

互豐 PVC 複合型水膨脹止水帶 • Unique PVC Water Stop for Super Absorbent Complex Type

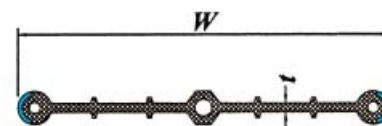
互豐 PVC 水膨脹止水帶改良傳統式 PVC 止水帶無法與混凝土完全密合的缺失。針對間隙(GAP)的滲漏等問題，開發出於 PVC 止水帶的兩端球狀外側半周上，附加吸水膨脹止水材，為一體成型的複合止水帶，並於表面處理一層遮水膜，防止因接觸雨水或地下水所引起的過早膨脹。本遮水膜僅於混凝土鹼性水中被慢慢溶解後，吸水膨脹止水材才開始自動膨脹，填滿間隙，阻止水的滲入。

This water stop is an improvement to the traditional PVC water stop that does not adjoin the concrete completely, causing leak at the gap. It has hydroswellable seal that expands upon contact of moisture added to the outside semi-circumference of the balls on both sides of the PVC water stop and surface treated with a layer of water shield membrane to prevent premature expansion upon contact with rainwater or underground water. Said expansion hydroswellable seal starts to expand automatically after the water shield membrane is gradually dissolved in the alkaline water of concrete and fills the gap to prevent water infiltration.

◆ 產品種類規格 / SPECIFICATIONS

1. WSA-A 型

WSA-A1

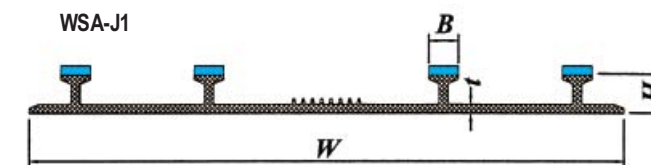


單位：mm

種類	規格	寬度	厚度	H	長度
Item	Spec.	Width (B)	Thickness (t)	H	Length M/RL
WSA-A1	200x5	200	5	20	20

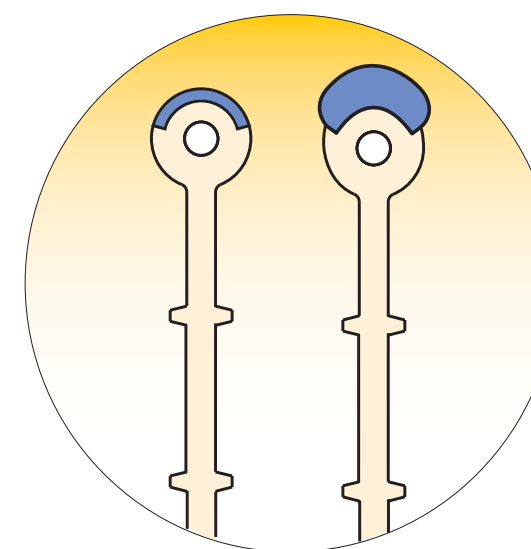
3. WSA-J 型

WSA-J1



單位：mm

種類	規格	寬度	厚度	H
Item	Spec.	Width (B)	Thickness (t)	H
WSA-J1	240x5	240 ± 7.0	5 ± 0.5 or over	15 以上 or over



膨脹前 膨脹後
Before inflation After inflation

◆ 產品物性及化性規範 / FEATURES

吸水膨脹止水材物性標準：

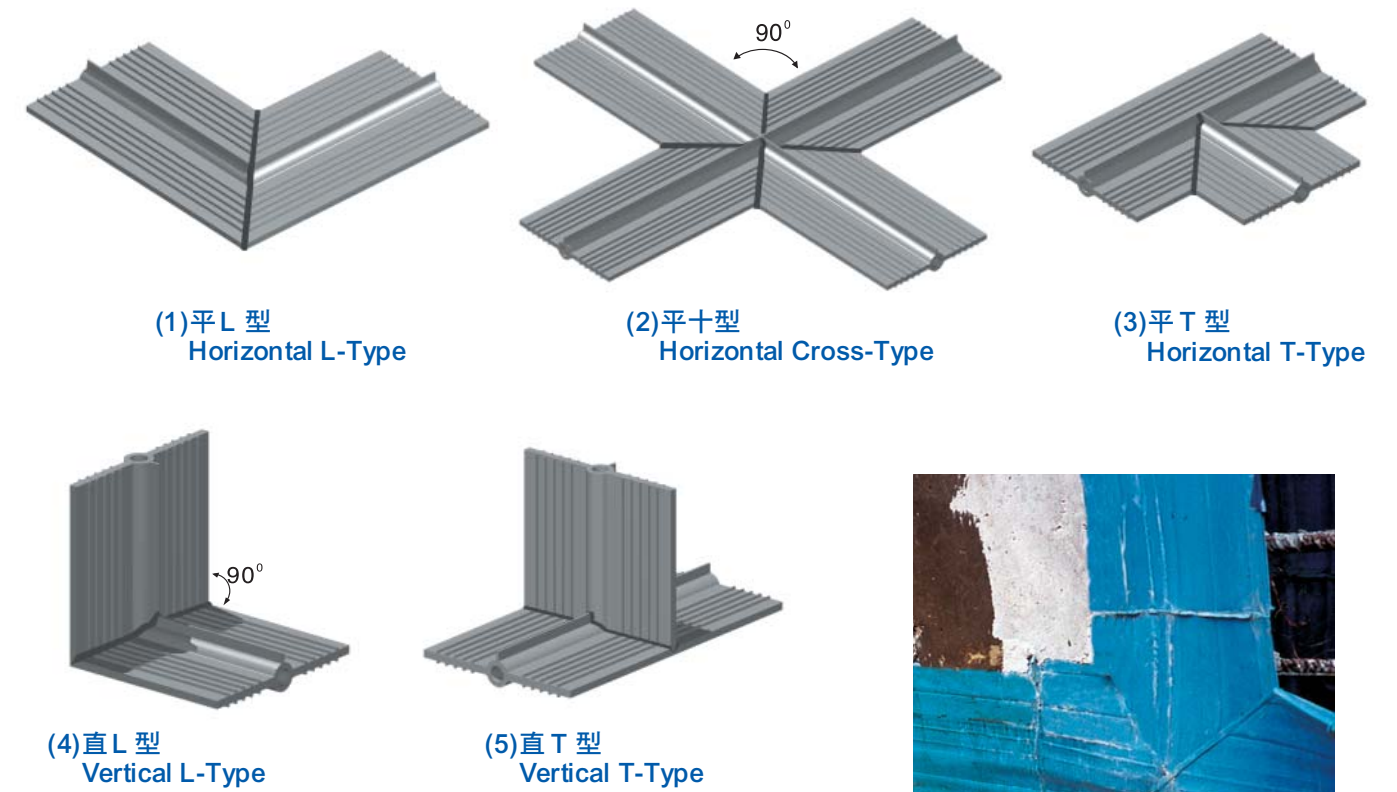
Physical properties for absorbent hydroswellng seal:

項目 Item	試驗方法 Testing Method	標準數值 Standard Value	測試參考值 Reference Value
比重 Specific gravity	JIS K6350 CNS 5341	1.12 以上 upward	1.35
硬度 Hardnesse (shore A)	JIS K6301 CNS 3555	50 ± 10	55
抗張強度 kg/cm ² Longitudinal tensile strength	JIS K6301 CNS 3553	25 以上 upward	35
伸長率 Longitudinal enlongation ratio	JIS K6301 CNS 3553	500 以上 upward	550
體積膨脹變化率 Rate df volume swell	JIS K6301 CNS 3562	+400 以上 upward	+520

• PVC 部份，材質符合 CNS 標準
On the PVC part, materials used meet the CNS standards.



◆ 施工上所需各接頭形式 / TYPES OF FITTINGS



建議裁剪焊接方式：

Suggestion for assembling methods:

1. 裁剪 + 熱融接：

Cutting and heat fusing methods:

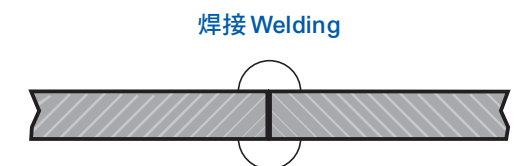
(融接後融接強度須達 CNS 強度標準 80% 以上)



2. 裁剪 + 焊接：

Cutting and welding methods:

(焊接後焊接強度須達 CNS 強度標準 80% 以上)



◆ 用途 / APPLICATIONS

■ 電源開發：

水壩 · 導水暗溝 · 輸水道 · 沈沙池 · 發電所 · 蓄水池

■ 港灣河川：

斜型防坡堤 · 垂直防坡堤 · 埋設扶壁 · 沈水箱 · 埋設岸壁

■ 鐵路公路：

捷運 · 地下鐵 · 高鐵工程 · 隧道 · 高架橋 · 地下道 · 防護坡 · 水道橋孔 · 地洞

■ 給水：

蓄水池 · 過濾池 · 導水暗溝

■ 農田水利：

進水閘孔 · 水庫 · 導水暗溝 · 分水閘 · 灌溉明溝

■ 大樓建築：

地下室 · 游泳池

■ Electricity Development :

Dam. Drain. Conveyance Channel. Sand Basin. Power Station. Reservoir.

■ Bay & River :

Slant Breakwater. Vertical Breakwater. Paving Supporting Wall. Caisson Paving Bank

■ Railway & Highway :

Mass rapid transit. Sub-way and high-speed rail. Tunnel. Elevated Bridge. Subway. Defending slope. Waterway Bridge Arch. Cavern.

■ Water Conservancy :

Intake Gate. Reservoir. Drain. Bifurcation Gate. Irrigation Open Ditch.

■ Mansion & Building :

Basement. Pool.

◆ 使用實例 / APPLICATIONS



▲ 核子發電廠 Nuclear power plants



▲ 高架公路 Elevated highways



▲ 疏洪道 Deluge Passage



▲ 灌溉明溝 Open irrigation canals



▲ 港灣 Harbors



▲ 自來水廠淨水池 Water purification pools at the water works



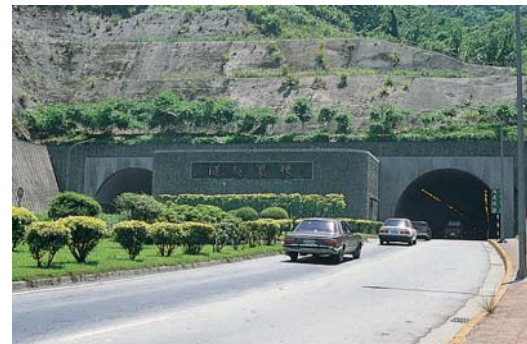
▲ 大樓建築 Mansion & Building



▲ 過港隧道 Tunnel under sea



▲ 水庫 Reservoirs



▲ 隧道 Tunnel



▲ 水庫水壩 Reservoirs

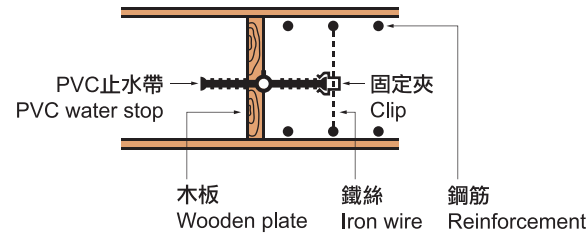


▲ 公路檔土牆 Highway soil bulwark.

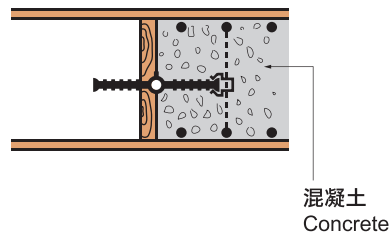
◆ 施工步驟 / INSTALLATIONS

A 此法為一般工作縫之施工法
This method applies to the general seam-Working process.

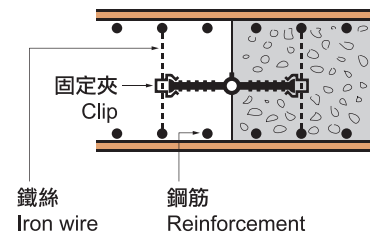
- A-1** 1. 以木板夾住止水帶
Clasp water stop with board.
2. 以鐵絲及固定夾將止水帶固定
Fasten water stop with iron wire and clip.



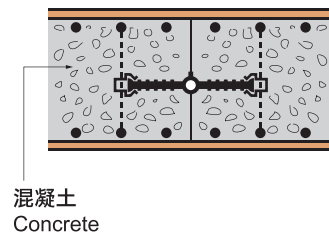
- A-2** 灌入混凝土
Pouring of concrete



- A-3** 1. 取下木板模
Take off wooden plate mold.
2. 以鐵絲及固定夾將止水帶固定
Fasten water stop with iron wire and clip.

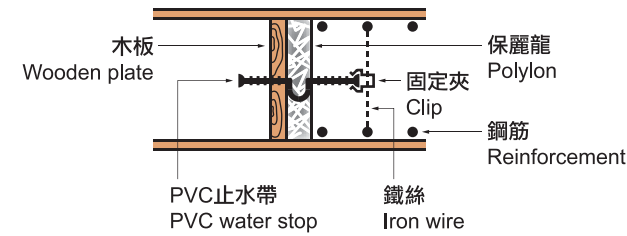


- A-4** 灌入混凝土
Pouring of concrete

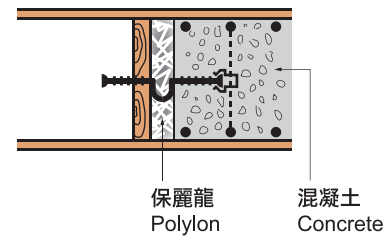


B 此法為伸縮縫須安裝間隙板之施工法
This method is know as flexible seam. Working process.

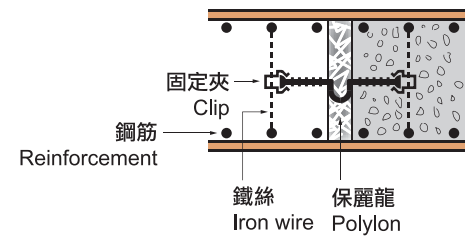
- B-1** 1. 以木板模夾住止水帶
Sandwich water stop with wooden plate mold
2. 填塞間隙板 (保麗龍)
Fill in the gapping board (Palyon)
3. 以鐵絲及固定夾將止水帶固定
Fasten water stop with iron wire and clip.



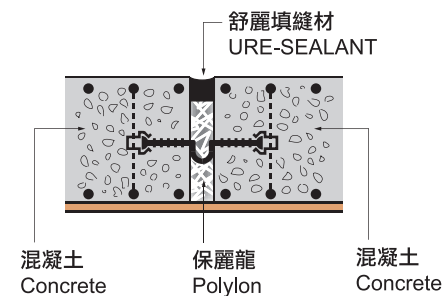
- B-2** 灌入混凝土
Pouring of concrete



- B-3** 1. 取下板模
Take off wooden plate mold.
2. 以鐵絲及固定夾將止水帶固定
Fasten water stop with iron wire and clip.

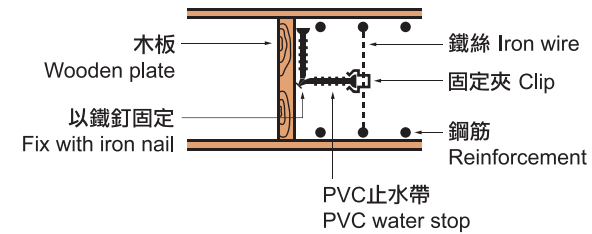


- B-4** 1. 灌入混凝土
Pouring of concrete
2. 待混凝土乾固且木板模拆除後，伸縮縫上端施工舒麗填縫材
URE-Sealant is applied to the flexible seam after the con-
crete gets dried up and the form work is removed.

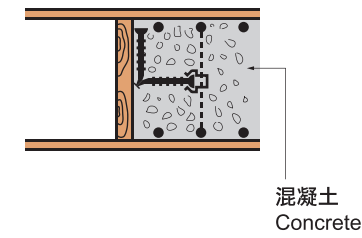


C 此法為鐵釘固定施工法
This method is know as permanent nailworking process.

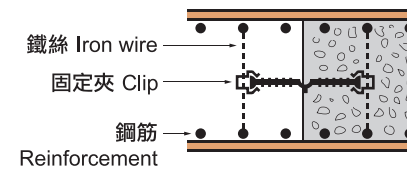
- C-1** 以鐵絲及固定夾將止水帶固定
Fasten water stop with iron wire and clip.



- C-2** 灌入混凝土
Pouring concrete



- C-3** 1. 取下板模
Take off wooden plate mold.
2. 以鐵絲及固定夾將止水帶固定
Fasten water stop with iron wire and clip.



- C-4** 灌入混凝土
Pouring concrete

