

# C.W.L.



KM680722

C.W.L. Zn+ BS EN 877 A2-s1, d0  DN100x3000mm 03.2018 WKY

## Epoxy coated cast iron drainage systems

BS EN 877:1999+A1:2006

UKAS HOKLAS SAC DAkkS  
a c c r e d i t a t i o n

### A2, s1-d0

Reaction to fire  
durable + noise reduction

Zn<sup>+</sup>  
ZnAl<sup>+</sup>

**BSI Kitemark**<sup>TM</sup> annual assessment  
reliability + traceability

BS EN 877  
**EPOXY COATED  
CAST IRON SERIES**



C.W.L. epoxy coated cast iron drainage systems  
紅垌產品目錄



KM 680722  
BS EN 877

Table of Contents

Introduction.....4

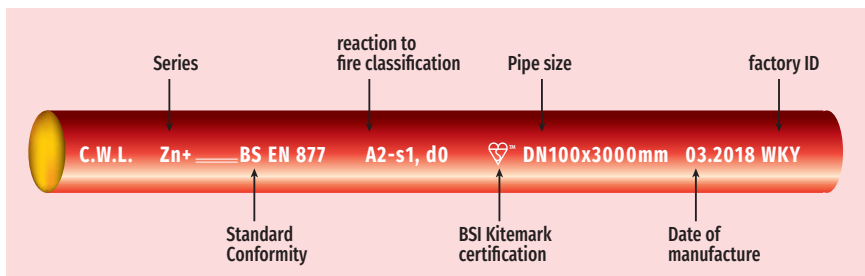
Pipes .....6

Fittings and couplings..... 7-21

Recommendations on installation, handling, etc. .... 22-25

Certificates and test reports..... 26-31

Re-introducing C.W.L. epoxy coated cast iron pipes and fittings with BSI Kitemark certification and newly improved coatings, conforming to BS EN 877 standard.



## What does our marking tell you?

### Series

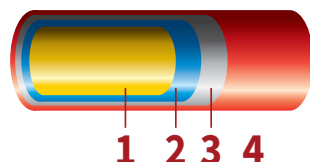
#### Improved external coatings of pipes for anti-corrosion

In addition to the standard external coating of 60-70 microns of liquid epoxy, we now add to our family:  
Zn+ - red epoxy with roughly 20 microns of zinc coating underneath  
ZnAl+ - red epoxy with roughly 20 microns of zinc and aluminum coating

Internal coating of yellow epoxy remains at 120-130 microns.

#### Coatings / lining at a glance

1. Yellow epoxy internal coating
2. Cast iron
3. Zinc or zinc-aluminum coating (only cable to Zn+ & ZnAl+ series)
4. Red epoxy



### Reaction to fire classification

#### Attained A2-s1,d0

A2 – products that are not, or only slightly, combustible  
s1 – low smoke production  
d0 – No flaming droplets

### BSI Kitemark™ certification (KM 680722)

#### Assurance of quality and reliability

Our products are warranted with *annual* assessment on products and audits on factory and buying office. A mix of expertise from Hong Kong and UK certifies products been checked to meet optimal standards.

### Date of manufacture/ factory ID

#### Traceability

Rest assured that all products are traceable for quality assurance.





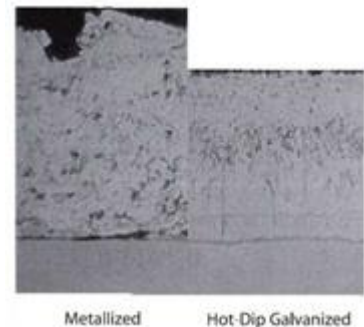
## 鋅/鋅鋁塗層 ZINC / ZINC-ALUMINUM COATING

### Coating of zinc / zinc-aluminum

To enhance the corrosion performance of the C.W.L. pipes, zinc and zinc-aluminum coatings are applied underneath the external epoxy coating.

The zinc and zinc-aluminum coatings are applied by **spray metallising**, where molten metal, either 99.9% zinc or an alloy of 85% zinc and 15% aluminum, is sprayed at high speed onto the surface to be protected. The molten metal instantly solidifies upon contact with the protected surface and creates a coating that protects the iron.

Metallising provides cathodic protection and is an alternative to hot-dip galvanizing where item sizes impose limitations. It is approximately 85% as dense as hot-dip galvanizing.



An AGA photomicrograph of various zinc coatings.  
(Source: <http://www.metalplate.com>)

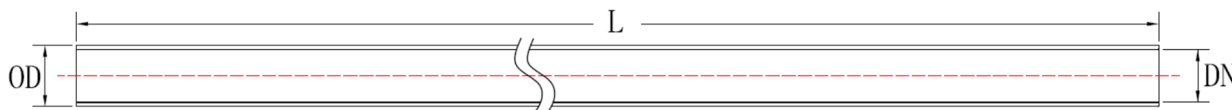
# C.W.L. epoxy coated cast iron drainage systems

## 紅垌產品目錄



KM 680722  
BS EN 877

### 鑄管 PIPES



系列 Series	產品編號 Product Code	直徑 DN (mm)	外徑 Outside Diameter (mm)		壁厚 Wall Thickness (mm)		長度 Length (mm)	重量 Weight (kg)
			OD	公差 Tolerance	T	公差 Tolerance		
Standard 標準	EPP50K	50	58	+2 / -1	3.5	-0.5	3M	13.0
	EPP75K	75	83		3.5	-0.5		19.0
	EPP100K	100	110		3.5	-0.5		25.2
	EPP150K	150	160		4.0	-0.5		42.2
	EPP200K	200	210	+2.5 / -2.5	5.0	-1.0		69.6
	EPP250K	250	274		5.5	-1.0		99.8
	EPP300K	300	325		6.0	-1.0		130.0
Zn <sup>+</sup> 鋅	EPPZ50K	50	58	+2 / -1	3.5	-0.5		13.0
	EPPZ75K	75	83		3.5	-0.5		19.0
	EPPZ100K	100	110		3.5	-0.5		25.2
	EPPZ150K	150	160		4.0	-0.5		42.2
	EPPZ200K	200	210	+2.5 / -2.5	5.0	-1.0		69.6
	EPPZ250K	250	274		5.5	-1.0		99.8
	EPPZ300K	300	325		6.0	-1.0		130.0
ZnAl <sup>+</sup> 鋅鋁	EPPZA50K	50	58	+2 / -1	3.5	-0.5		13.0
	EPPZA75K	75	83		3.5	-0.5		19.0
	EPPZA100K	100	110		3.5	-0.5		25.2
	EPPZA150K	150	160		4.0	-0.5		42.2
	EPPZA200K	200	210	+2.5 / -2.5	5.0	-1.0		69.6
	EPPZA250K	250	274		5.5	-1.0		99.8
	EPPZA300K	300	325		6.0	-1.0		130.0

以上圖示僅供參考，所有尺寸均以真實產品為準。產品種類及尺寸未能盡錄，可特別訂造其他尺寸及產品。請參考風箏標證書了解獲認可產品。

All illustrations and diagrams are not drawn to scale, please refer to the original products for dimensions. Other dimensions and products can be custom made upon request. Please refer to Kitemark Certificate for approved range of products.

08.2019

# C.W.L. epoxy coated cast iron drainage systems

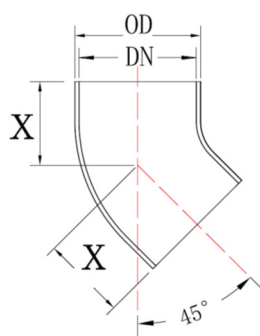
## 紅垌產品目錄



KM 680722  
BS EN 877

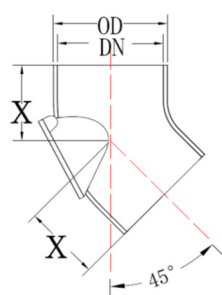
### 邊 BENDS

#### 45° 短邊 Bend



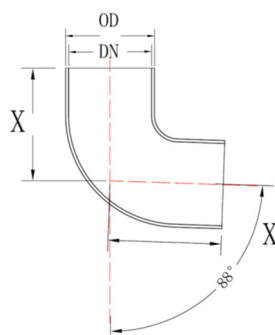
產品編號 Product Code	直徑 DN (mm)	X (mm)
EP45B/50K	50	50
EP45B/75K	75	60
EP45B/100K	100	70
EP45B/150K	150	90
EP45B/200K	200	110
EP45B/250K	250	130
EP45B/300K	300	156

#### 45° 有掩短邊 Bend with access door



產品編號 Product Code	直徑 DN (mm)	X (mm)
EP45BA/100K	100	80
EP45BA/150K	150	110

#### 88° 短邊 Bend



產品編號 Product Code	直徑 DN (mm)	X (mm)
EP88B/50K	50	75
EP88B/75K	75	95
EP88B/100K	100	110
EP88B/150K	150	145
EP88B/200K	200	180
EP88B/250K	250	220
EP88B/300K	300	260

# C.W.L. epoxy coated cast iron drainage systems

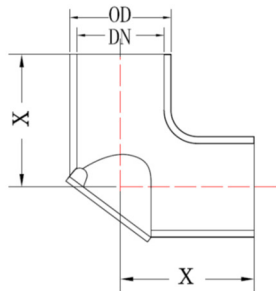
## 紅坭產品目錄



KM 680722  
BS EN 877

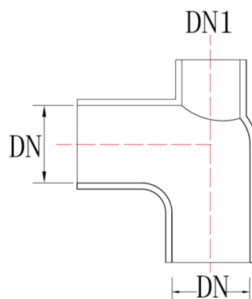
### 邊 BENDS

#### 88° 有掩短邊 Bend with access door



產品編號 Product Code	直徑 DN (mm)	X (mm)
EP88BA/75K	75	95
EP88BA/100K	100	110
EP88BA/150K	150	145

#### 88° 企頭邊 Bend with high heel



產品編號 Product Code	直徑 DN (mm)	DN1 (mm)
EP88BH/100K	100	50



# C.W.L. epoxy coated cast iron drainage systems

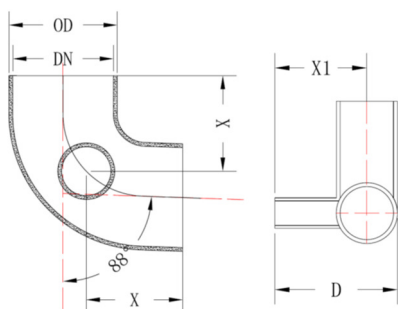
## 紅垌產品目錄



KM 680722  
BS EN 877

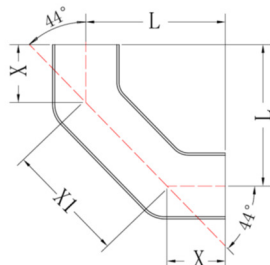
### 邊 BENDS

#### 88°揸仔邊 Bend with vent



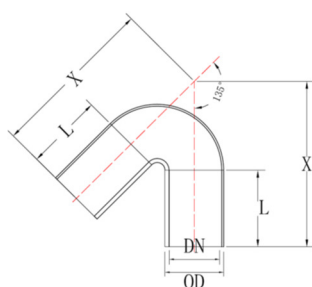
產品編號 Product Code	直徑 DN (mm)	X (mm)	X1 (mm)
EP88BV/100K	100 / 50	110	95

#### 88° 雙長彎邊 Double Bend



產品編號 Product Code	直徑 DN (mm)	X (mm)	X1 (mm)	L (mm)
EP88DB/50K	50	50	100	121
EP88DB/75K	75	60	120	145
EP88DB/100K	100	70	140	170
EP88DB/150K	150	90	180	219

#### 135° 邊 Bend



產品編號 Product Code	直徑 DN (mm)	X (mm)	L (mm)
EP135B/100K	100	312	150

# C.W.L. epoxy coated cast iron drainage systems

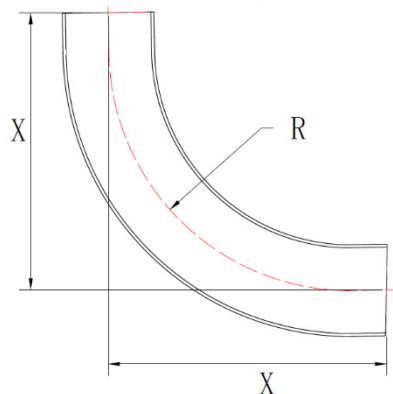
## 紅坭產品目錄



KM 680722  
BS EN 877

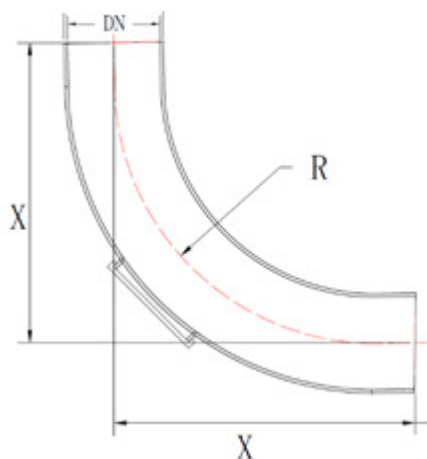
### 邊 BENDS

#### 大彎邊 Long radius bend



產品編號 Product Code	直徑 DN (mm)	X (mm)	R (mm)
EPLRB/75K	75	288	252
EPLRB/100K	100	272	180
EPLRB/150K	150	400	230
EPLRB/200K	200	450	300

#### 有掩大彎邊 Long radius bend with access door



產品編號 Product Code	直徑 DN (mm)	X (mm)	R (mm)
EPLRBA/100K	100	480	450
EPLRBA/150K	150	635	600

# C.W.L. epoxy coated cast iron drainage systems

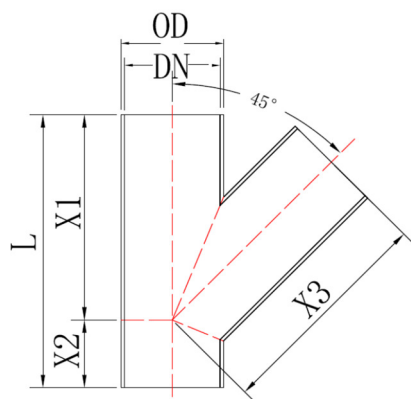
## 紅坭產品目錄



KM 680722  
BS EN 877

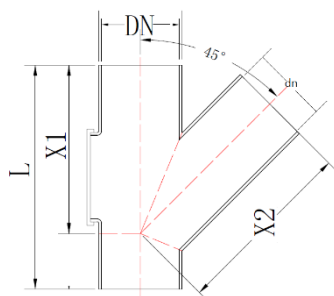
### 又 BRANCHES

#### 45° 三叉 Single branches



產品編號 Product Code	直徑 DN (mm)	L (mm)	X1 (mm)	X2 (mm)	X3 (mm)
EP45SB/50-50K	50 x 50	185	135	50	135
EP45SB/75-50K	75 x 50	190	140	50	140
EP45SB/75-75K	75 x 75	225	160	65	160
EP45SB/100-50K	100 x 50	200	165	35	165
EP45SB/100-75K	100 x 75	230	175	55	175
EP45SB/100-100K	100 x 100	275	205	70	205
EP45SB/150-50K	150 x 50	282	242	40	242
EP45SB/150-75K	150 x 75	295	240	55	240
EP45SB/150-100K	150 x 100	295	240	55	240
EP45SB/150-150K	150 x 150	355	265	90	265
EP45SB/200-75K	200 x 75	262	242	20	242
EP45SB/200-100K	200 x 100	305	265	40	265
EP45SB/200-150K	200 x 150	375	300	375	300
EP45SB/200-200K	200 x 200	455	340	115	340
EP45SB/250-100K	250 x 100	330	310	15	310
EP45SB/250-150K	250 x 150	405	350	55	350
EP45SB/250-200K	250 x 200	475	385	90	385
EP45SB/250-250K	250 x 250	560	430	130	430
EP45SB/300-100K	300 x 100	370	350	25	350
EP45SB/300-150K	300 x 150	415	380	35	380
EP45SB/300-200K	300 x 200	490	420	70	440
EP45SB/300-250K	300 x 250	580	465	115	465
EP45SB/300-300K	300 x 300	660	505	155	505

#### 45°有掩斜叉 Single branch with access door



產品編號 Product Code	直徑 DN (mm)	直徑 dn (mm)	L (mm)	X1 (mm)	X2 (mm)
EP45SBA/100-75K	100	75	258	198	195
EP45SBA/100-100K	100	100	258	190	190
EP45SBA/150-100K	150	100	280	235	228
EP45SBA/150-150K	150	150	340	260	265

# C.W.L. epoxy coated cast iron drainage systems

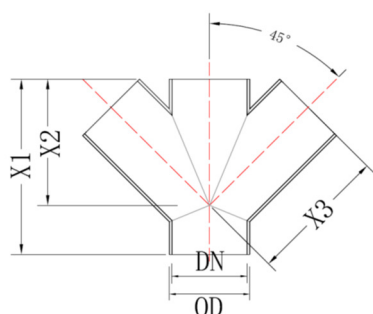
## 紅坭產品目錄



KM 680722  
BS EN 877

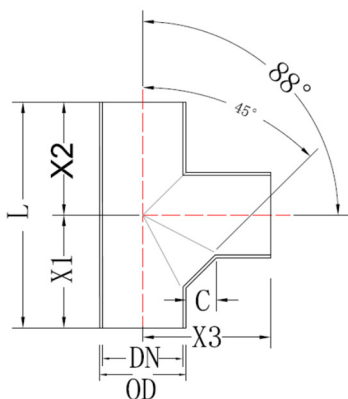
### 又 BRANCHES

#### 45° 雙斜叉 Double branches



產品編號 Product Code	直徑 DN (mm)	X1 (mm)	X2 (mm)	X3 (mm)
EP45DB/100-50K	100 x 50 x 50	205	167	167
EP45DB/100K	100 x 100 x 100	260	190	190
EP45DB/150K	150 x 100 x 100	284	225	225

#### 88° 三叉 Single branch



產品編號 Product Code	直徑 DN (mm)	L (mm)	X1 (mm)	X2 (mm)	X3 (mm)	C (mm)
EP88SB/50-50K	50 x 50	145	79	66	80	20
EP88SB/75-50K	75 x 50	160	85	75	90	22
EP88SB/75-75K	75 x 75	180	97	91	95	22
EP88SB/100-50K	100 x 50	170	94	76	105	22
EP88SB/100-75K	100 x 75	190	102	88	110	22
EP88SB/100-100K	100 x 100	220	115	105	120	22
EP88SB/150-50K	150 x 50	200	100	100	140	27.5
EP88SB/150-75K	150 x 75	222	115	105	140	27.5
EP88SB/150-100K	150 x 100	245	130	115	145	23
EP88SB/150-150K	150 x 150	300	158	142	155	27.5
EP88SB/200-100K	200 x 100	270	140	130	170	30
EP88SB/200-150K	200 x 150	325	173	152	185	32.5
EP88SB/200-200K	200 x 200	380	195	180	200	35
EP88SB/250-100K	250 x 100	310	165	145	212	35
EP88SB/250-150K	250 x 150	360	190	170	230	35
EP88SB/250-200K	250 x 200	408	211	197	235	33
EP88SB/250-250K	250 x 250	472	242	230	245	36
EP88SB/300-100K	300 x 100	345	185	165	250	30
EP88SB/300-150K	300 x 150	400	210	190	255	33
EP88SB/300-200K	300 x 200	455	235	220	265	35
EP88SB/300-250K	300 x 250	524	272	252	278	36
EP88SB/300-300K	300 x 300	535	267	267	267	26

以上圖示僅供參考，所有尺寸均以真實產品為準。產品種類及尺寸未能盡錄，可特別訂造其他尺寸及產品。請參考風箏標證書了解獲認可產品。

All illustrations and diagrams are not drawn to scale, please refer to the original products for dimensions. Other dimensions and products can be custom made upon request. Please refer to Kitemark Certificate for approved range of products.

08.2019



# C.W.L. epoxy coated cast iron drainage systems

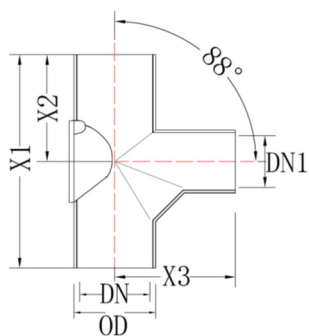
## 紅坭產品目錄



KM 680722  
BS EN 877

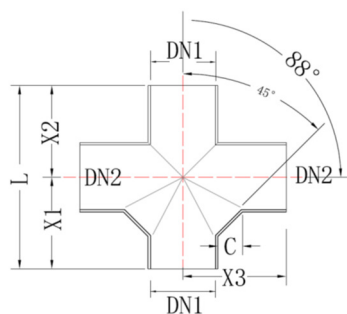
### 又 BRANCHES

#### 88° 有掩三叉 Single branch with access door



產品編號 Product Code	直徑 DN (mm)	X1 (mm)	X2 (mm)	X3 (mm)
EP88SBA/100-50K	100 x 50	204	90	95
EP88SBA/100-100K	100 x 100	270	102	150
EP88SBA/150-100K	150 x 100	300	117	202
EP88SBA/150-150K	150 x 150	350	145	190

#### 88° 十字叉 Double branches



產品編號 Product Code	直徑 DN (mm)	L (mm)	X1 (mm)	X2 (mm)	X3 (mm)	C (mm)
EP88DB/100-50K	100 x 50 x 50	180	100	80	105	22
EP88DB/100-75K	100 x 75 x 75	190	102	88	110	22
EP88DB/100-100K	100 x 100 x 100	230	120	110	120	22
EP88DB/150-100K	150 x 100 x 100	245	130	115	145	27.5

# C.W.L. epoxy coated cast iron drainage systems

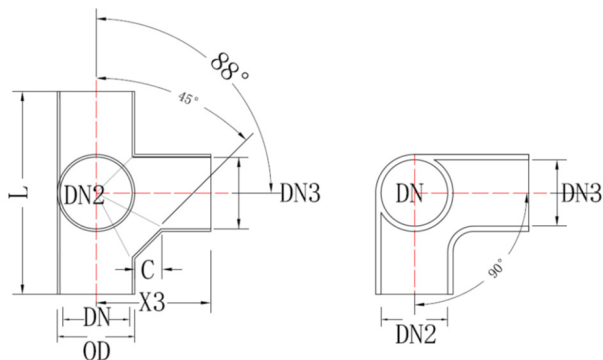
## 紅垌產品目錄



KM 680722  
BS EN 877

### 叉 BRANCHES

#### 88° 曲尺叉 Corner double branches



產品編號 Product Code	直徑 DN (mm)	L (mm)	X3 (mm)
EP88CDB/100-100K	100 x 100 x 100	220	120
EP88CDB/150-100K	150 x 100 x 100	245	145

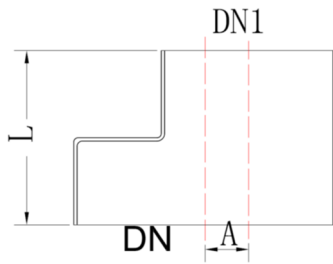
# C.W.L. epoxy coated cast iron drainage systems

## 紅坭產品目錄



KM 680722  
BS EN 877

### 刁士 REDUCERS



產品編號 Product Code	直徑 DN (mm)	L (mm)	A (mm)
EPR/75-50K	75 x 50	80	13
EPR/100-50K	100 x 50	80	25
EPR/100-75K	100 x 75	85	13.5
EPR/150-50K	150 x 50	95	51
EPR/150-75K	150 x 75	100	38.5
EPR/150-100K	150 x 100	105	25
EPR/200-100K	200 x 100	115	50
EPR/200-150K	200 x 150	125	25
EPR/250-150K	250 x 150	140	57
EPR/250-200K	250 x 200	145	32
EPR/300-150K	300 x 150	150	83
EPR/300-200K	300 x 200	160	58
EPR/300-250K	300 x 250	170	26

# C.W.L. epoxy coated cast iron drainage systems

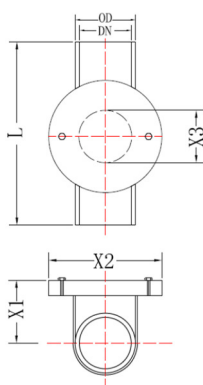
## 紅坭產品目錄



KM 680722  
BS EN 877

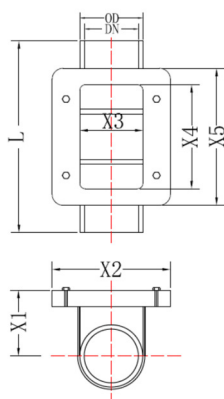
### 短坭 INSPECTION PIPES

#### 圓型有掩短坭 Inspection pipe with round opening



產品編號 Product Code	直徑 DN (mm)	x1 (mm)	x2 (mm)	x3 (mm)	L (mm)
EIPIC/50K	50	35	105	53	190
EIPIC/75K	75	90	135	78	220
EIPIC/100K	100	61	159	104	260
EIPIC/150K (cover of DN100)	150	86	211	153	323

#### 方型有掩短坭 Inspection pipe with rectangular opening



產品編號 Product Code	直徑 DN (mm)	L (mm)	X1 (mm)	X2 (mm)	X3 (mm)	X4 (mm)	X5 (mm)
EIPR/100K	100	340	83	160	100	200	230
EIPR/150K	150	400	112	215	150	250	280
EIPR/200K	200	470	135	265	200	300	330
EIPR/250K	250	575	170	330	259	350	426
EIPR/300K	300	645	200	380	309	400	480



# C.W.L. epoxy coated cast iron drainage systems

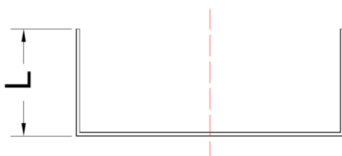
## 紅坭產品目錄



KM 680722  
BS EN 877

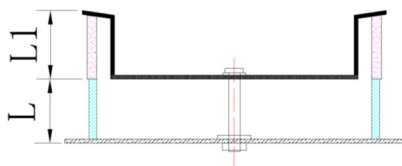
### 堵頭 PLUGS

#### 堵頭 Plugs



產品編號 Product Code	直徑 DN (mm)	L (mm)
EPPG/50K	50	30
EPPG/75K	75	35
EPPG/100K	100	40
EPPG/150K	150	50
EPPG/200K	200	60
EPPG/250K	250	70
EPPG/300K	300	80

#### 延伸堵頭 Expansion plugs



產品編號 Product Code	直徑 DN (mm)	L (mm)	L1 (mm)
EPEPG/75K	75	28	27
EPEPG/100K	100	28	27

# C.W.L. epoxy coated cast iron drainage systems

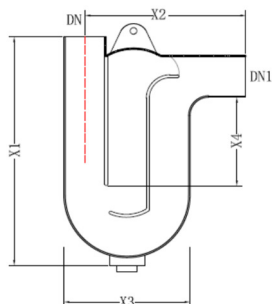
## 紅坭產品目錄



KM 680722  
BS EN 877

### 隔氣 TRAPS

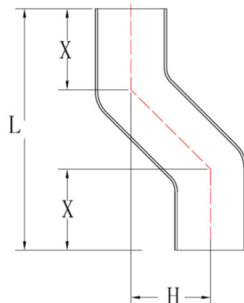
#### 防吸式隔氣 Anti-Syphon trap



產品編號 Product Code	直徑 DN (mm)	X1 (mm)	X2 (mm)	X3 (mm)	X4 (mm)
EPATP/50K	50	251	155	141	80
EPATP/75K	75	295	200	180	83
EPATP/100K	100	385	215	220	95
EPATP/150K	150	620	380	380	160

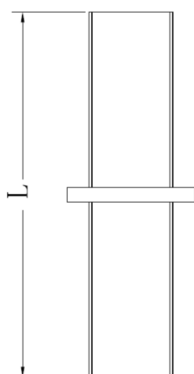
### 其他 OTHERS

#### 過渡管 Offset pipes



產品編號 Product Code	直徑 DN (mm)	L (mm)	x (mm)	H (mm)
EPOP/100-65K	100 Sprung 65	205	70	65
EPOP/100-130K	100 Sprung 130	270	70	130
EPOP/100-200K	100 Sprung 200	340	70	200

#### 中間介子直管 Stack support pipes



產品編號 Product Code	直徑 DN (mm)	L (mm)
EPSS/50K	50	200
EPSS/75K	75	200
EPSS/100K	100	200
EPSS/150K	150	200
EPSS/200K	200	200

以上圖示僅供參考，所有尺寸均以真實產品為準。產品種類及尺寸未能盡錄，可特別訂造其他尺寸及產品。請參考風箏標證書了解獲認可產品。  
All illustrations and diagrams are not drawn to scale, please refer to the original products for dimensions. Other dimensions and products can be custom made upon request.  
Please refer to Kitemark Certificate for approved range of products.  
08.2019

## C.W.L. epoxy coated cast iron drainage systems

### 紅坭產品目錄

#### 卡箍 COUPLINGS

##### 不銹鋼 B 型卡箍 (單螺絲) Stainless Steel B type sewage coupling (with EPDM gasket)



產品編號 Product Code	D (mm)	H (mm)	L (mm)	Bolt (mm)
EPB-C/50	72.0	80	42.0	M8
EPB-C/75	91.5	108	47.0	M8
EPB-C/100	124.5	135	47.0	M8
EPB-C/150	172.0	192	55.0	M8
EPB-C/200	230.0	255	61.4	M10

##### 不銹鋼 CHA 型卡箍 Stainless Steel CHA type heavy duty coupling (with EPDM gasket)



產品編號 Product Code	A (mm)	B (mm)	Bolt (mm)
EPCHA-C/50	58.0	68	M6
EPCHA-C/75	58.0	96	M6
EPCHA-C/100	58.0	120	M6
EPCHA-C/150	72.0	168	M6
EPCHA-C/250	140.0	140	M6
EPCHA-C/300	140.0	140	M6

以上圖示僅供參考，所有尺寸均以真實產品為準。產品種類及尺寸未能盡錄，可特別訂造其他尺寸及產品。請參考風箏標證書了解獲認可產品。

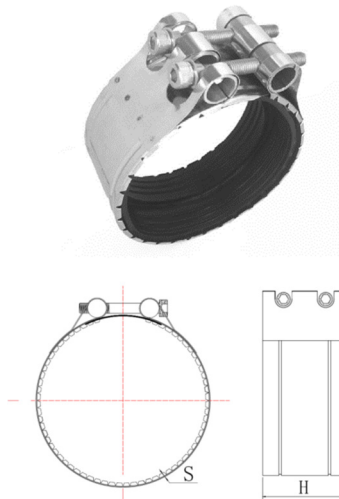
All illustrations and diagrams are not drawn to scale, please refer to the original products for dimensions. Other dimensions and products can be custom made upon request. Please refer to Kitemark Certificate for approved range of products.

Oct 2018

## C.W.L. epoxy coated cast iron drainage systems 紅坭產品目錄

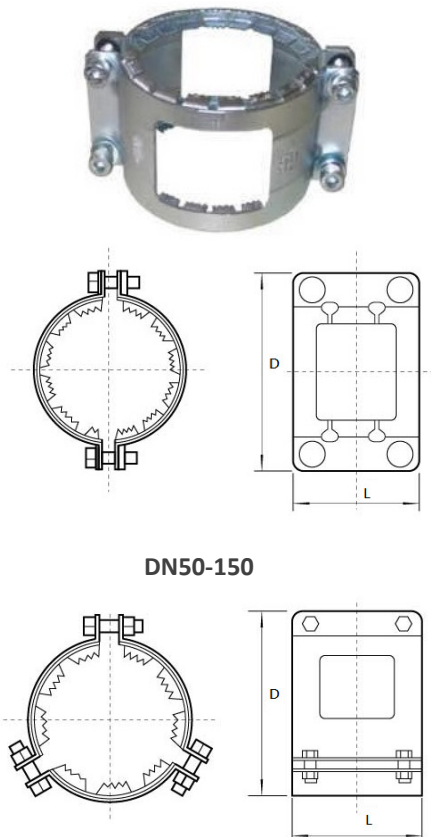
### 卡箍 COUPLINGS

#### 不銹鋼 F 型卡箍 Stainless Steel F type coupling (with EPDM gasket)



產品編號 Product Code	直徑 DN (mm)	H (mm)	Bolt (mm)
EPF-C/200	200	104	M10
EPF-C/250	250	104	M10
EPF-C/300	300	143	M12

#### 碳鋼鍍鋅加強箍 Zinc plated carbon steel grip collar to be used with B, CHA and F type couplings 與 B 型、CHA 型及 F 型卡箍同用



DN50-150

DN200-300

產品編號 Product Code	直徑 DN (mm)	D (mm)	L (mm)	Bolt (mm)
EPF-G/50	50	124	72	M8
EPF-G/75	75	149	72	M8
EPF-G/100	100	180	87	M10
EPF-G/150	150	230	98	M10
EPF-G/200	200	287	111	M10
EPF-G/250	250	367	182	M10
EPF-G/300	300	419	182	M12

以上圖示僅供參考，所有尺寸均以真實產品為準。產品種類及尺寸未能盡錄，可特別訂造其他尺寸及產品。請參考風箏標證書了解獲認可產品。  
All illustrations and diagrams are not drawn to scale, please refer to the original products for dimensions. Other dimensions and products can be custom made upon request.  
Please refer to Kitemark Certificate for approved range of products.

Oct 2018



# C.W.L. epoxy coated cast iron drainage systems

## 紅垌產品目錄



KM 680722  
BS EN 877

### 卡箍 COUPLINGS

**C.W.L. standard couplings** are available in SS316 collars with bolts/nuts which meet the requirement of BS EN 877. The performance of the couplings also meets the technical requirement of 4.7.5 the standard, as follows:

Test condition	Hydrostatic test pressure in bar			
	DN ≤ DN 200		DN > DN 200	
	Internal	External	Internal	external
a) aligned	0 to 5	0 to 0,5	0 to 3	0 to 0,5
b) deflected	0 to 5	--	0 to 3	
c) subject to shear force	0 to 1	--	0 to 1	

Table 4: Water tightness of joints-performance requirements



**Onsite assessment passing the hydrostatic test pressure**



## 安裝指引 | RECOMMENDATIONS ON JOINTING, HANDLING ETC.

### Recommendation on Handling, Storage and Installation

- Select the site area for the temporary storage of the pipes and fittings before they are delivered to site.
- Place the timer on the selected area before the pipes and fittings are transported to the designated area for the temporary storage.
- Protect the materials with plastic sheets at the storage area.
- Install hangers with brackets as recommended before installation of pipes and fittings.
- The joint method of pipes and fittings shall be referred to the Jointing Method by Mechanical Metal Couplings.

### Recommendation on Pipework Support

#### Horizontal pipework support

Two brackets per 3 metre pipe length shall be installed at *700mm from coupling joints*. See ① in diagram 1.

The fittings shall be supported by installing grip collars at every change of direction at the bottom end of stack. See ⑤ in diagram .

#### Vertical pipework support

Bracket shall be installed at *700mm from the upper end of pipe* for 3 metres length pipe (See ② in diagram 1). Additional brackets shall be provided where fittings are installed in the vertical stack (See ③ in diagram 1).

Grip collars shall be installed for buildings with tall pipe stack, at not more than 50 metres apart (See ④ in diagram 1).



## 安裝指引 | RECOMMENDATIONS ON JOINTING, HANDLING ETC.

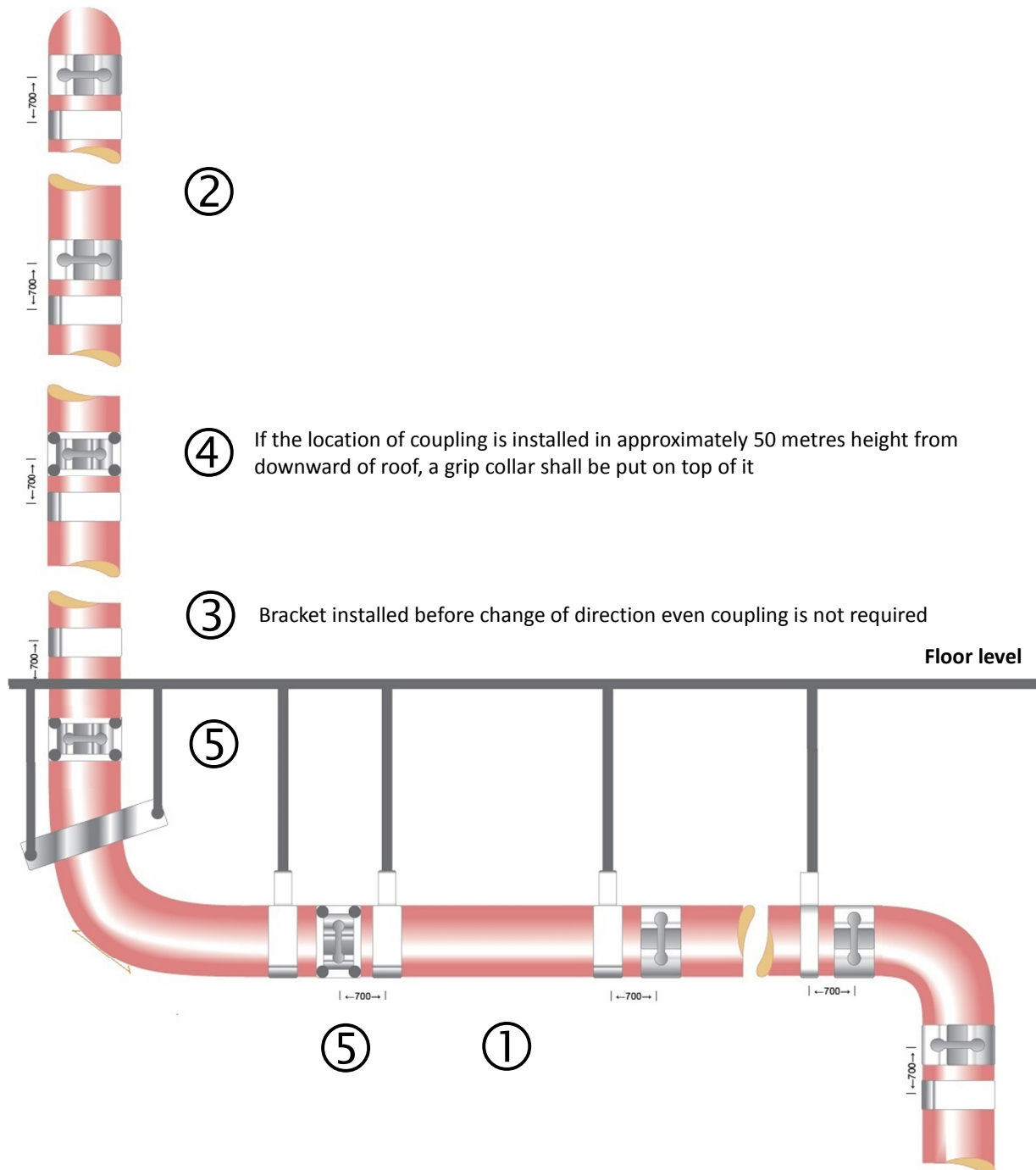
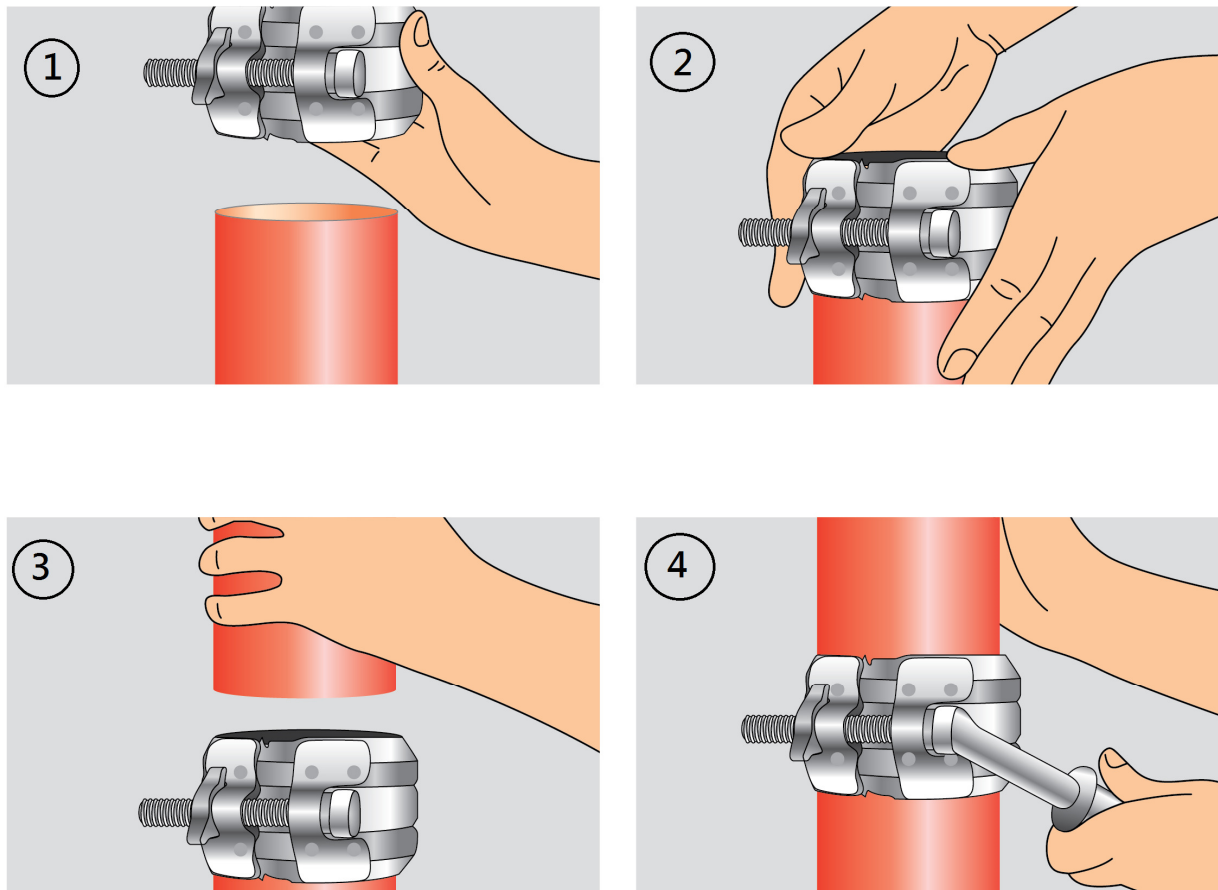


Diagram 1. Recommendation on pipework support.

## 安裝指引 | RECOMMENDATIONS ON JOINTING, HANDLING ETC.

### Recommendation on Jointing Method by Mechanical Metal Coupling



- Step 1. Take a pipe and square cut the required length with axis by means of electric cutter in accordance with site safety guidelines. Polish the incised end of the pipe gently and apply CWL epoxy touch up paint onto the incised area as recommended.
- Step 2. Push the coupling (consisting of EPDM gasket inner and stainless steel fixing collar outer) onto the end of the pipe or fitting spigot up to the centre of gasket.
- Step 3. Push the next pipe or fitting into the coupling making sure that cut pipes are square.
- Step 4. Tighten the coupling screws with screwdriver, ensuring metal to metal contact for electrical continuity.

The pipe can be fixed in accordance with the pre-setting out line and be supported by brackets with supporting at the suitable location.

## C.W.L. epoxy coated cast iron drainage systems 紅垌產品目錄



KM 680722  
BS EN 877

### 安裝指引 | RECOMMENDATIONS ON JOINTING, HANDLING ETC.

#### Painting / additional coating after system adjustment

##### C.W.L. Epoxy touch up paint

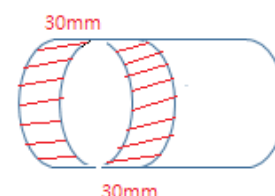
CWL Epoxy paint is recommended to be applied to the system after pipes have been cut to suit project needs. It is a low-VOC, universal water-based epoxy amine-adduct primer in red colour designed for mild to moderate industrial use, for instance, to coat incised surfaces of cast iron pipes.



For best corrosion protection, incised surfaces of cast iron pipes shall be cleaned thoroughly with burrs removed before being coated with CWL epoxy touch-up paint. Available in 300ml and 500ml cans.

#### Suggestions for use (*Stir, shake and mix the paint well before use*)

- Cut the pipe as required;
- Before applying paint, clean the surface with burrs, dirt, grease, oil, salt and chemical contaminants removed. Pad dry the area to be coated;
- Apply a layer of paint with brush on the incised surface as well as inside and outside of the pipe (overlaid to cover around 30mm on both the inside and outside)
- Close the can;
- Refer to dry times in physical properties



# C.W.L. epoxy coated cast iron drainage systems

## 紅垌產品目錄



KM 680722  
BS EN 877

### 證書及報告 CERTIFICATE & TEST REPORTS

#### BSI Kitemark™ Certification



#### Kitemark™ Certificate



By Royal Charter

Accredited by the United Kingdom Accreditation Service (UKAS), a Multilateral Recognition Agreement (MRA) partner of the Hong Kong Laboratory Accreditation Scheme (HOKLAS)

This is to certify that:

Channel Win (HK) Limited  
Room 2602-03, 26/F, BEA Tower  
Millennium City 5  
418 Kwun Tong Road  
Kwun Tong  
Hong Kong

Holds Certificate Number:

KM 680722

In respect of:

**BS EN 877**

**Cast iron pipes and fittings, their joints and accessories,, for the evacuation of water from buildings.**

Certification details accessible online at  
<https://www.bsigroup.com/en-GB/Product-Directory/>

This issues the right and licence to use the Kitemark in accordance with the Kitemark Terms and Conditions governing the use of the Kitemark, as may be updated from time to time by BSI Assurance UK Ltd (the "Conditions"). All defined terms in this Certificate shall have the same meaning as in the Conditions.

The use of the Kitemark is authorized in respect of the Product(s) detailed on this Certificate provided at or from the above address.

For and on behalf of BSI:

  
Chris Lewis - Certification Director, Product Certification

First Issued: 2018-09-21

Latest Issue: 2018-09-21

Effective Date: 2018-09-21

Expiry Date: 2021-09-20

Page: 1 of 4

Validity of certificate  
with annual assessment passed



...making excellence a habit.™

This certificate has been issued by and remains the property of BSI Assurance UK Ltd, Kitemark Court, Davy Avenue, Knowlhill, Milton Keynes MK5 8PP, United Kingdom and should be returned immediately upon request.  
To check its validity telephone +44 (0) 345 080 9000. An electronic certificate can be authenticated [online](https://www.bsigroup.com/en-GB/Product-Directory/).

BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.  
A member of BSI Group of Companies.

以上圖示僅供參考，所有尺寸均以真實產品為準。產品種類及尺寸未能盡錄，可特別訂造其他尺寸及產品。請參考風箏標證書了解獲認可產品。

All illustrations and diagrams are not drawn to scale, please refer to the original products for dimensions. Other dimensions and products can be custom made upon request. Please refer to Kitemark Certificate for approved range of products.

08.2019



# C.W.L. epoxy coated cast iron drainage systems

## 紅垌產品目錄



KM 680722  
BS EN 877

## 証書及報告 CERTIFICATE & TEST REPORTS

### BSI Kitemark™ Certification

#### Kitemark™ Certificate

No. KM 680722

**BS EN 877:1999+A1:2006 - Cast iron pipes and fittings, their joints and accessories for the evacuation of water from buildings - Requirements, test methods and quality assurance**

The scope of this Certificate covers the following "C.W.L." branded products.

C.W.L. branded  
BS EN 877  
products

#### Pipes

##### General Series Pipes

Product	Description	Nominal Size, DN/OD (mm)
Plain Ended Pipes	Yellow epoxy internal coating. Red paint / red epoxy external coating	50, 75, 100, 150, 200, 250, 300

##### Zinc Series Pipes

Product	Description	Nominal Size, DN/OD (mm)
Plain Ended Pipes	Yellow epoxy internal coating. Red epoxy / zinc external coating	50, 75, 100, 150, 200, 250, 300

##### Zinc-Aluminium Series Pipes

Product	Description	Nominal Size, DN/OD (mm)
Plain Ended Pipes	Yellow epoxy internal coating. Red epoxy / zinc-aluminium external coating	50, 75, 100, 150, 200, 250, 300

First Issued: 2018-09-21

Latest Issue: 2018-09-21

Effective Date: 2018-09-21

Expiry Date: 2021-09-20

Page: 2 of 4

This certificate has been issued by and remains the property of BSI Assurance UK Ltd, Kitemark Court, Davy Avenue, Knowlhill, Milton Keynes MK5 8PP, United Kingdom and should be returned immediately upon request.  
To check its validity telephone +44 (0) 345 080 9000. An electronic certificate can be authenticated [online](#).

BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.  
A member of BSI Group of Companies.



## 証書及報告 CERTIFICATE & TEST REPORTS

### BSI Kitemark™ Certification

#### Kitemark™ Certificate

No. KM 680722

**BS EN 877:1999+A1:2006 - Cast iron pipes and fittings, their joints and accessories for the evacuation of water from buildings - Requirements, test methods and quality assurance**

#### Fittings

#### Red epoxy internal and external coating

Product	Description	Nominal Size, DN/OD (mm)
<b>Bends</b>	45°	50, 75, 100, 150, 200
	45° with access door	100, 150
	88°	50, 75, 100, 150, 200, 250, 300
	88° with access door	75, 100, 150
	88° with high heel	100 x 50
	88° with vent	100 x 50
	135°	100
<b>Branches</b>	45° single	50x50, 75x75, 100x50, 100x75, 100x100, 150x75, 150x100, 150x150, 200x75, 200x100, 200x150, 200x200, 250x100, 250x150, 250x200, 250x250, 300x200, 300x250, 300x300
	45° double	100x50x50, 100x100x100
	88° single	50x50, 75x50, 75x75, 100x50, 100x75, 100x100, 150x50, 150x75, 150x100, 150x150, 200x100, 200x150, 200x200, 250x150, 300x150, 300x250
	88° single with access door	100x100, 150x100, 150x150
	88° double	100x50x50, 100x75x75, 100x100x100, 150x100x100
	88° corner	100x100x100, 150x100x100

First Issued: 2018-09-21

Latest Issue: 2018-09-21

Effective Date: 2018-09-21

Expiry Date: 2021-09-20

Page: 3 of 4

This certificate has been issued by and remains the property of BSI Assurance UK Ltd, Kitemark Court, Davy Avenue, Knowlhill, Milton Keynes MK5 8PP, United Kingdom and should be returned immediately upon request.

To check its validity telephone +44 (0) 345 080 9000. An electronic certificate can be authenticated [online](#).

BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.  
A member of BSI Group of Companies.



# C.W.L. epoxy coated cast iron drainage systems

## 紅垌產品目錄



KM 680722  
BS EN 877

## 証書及報告 CERTIFICATE & TEST REPORTS

### BSI Kitemark™ Certification

#### Kitemark™ Certificate

No. KM 680722

**BS EN 877:1999+A1:2006 - Cast iron pipes and fittings, their joints and accessories for the evacuation of water from buildings - Requirements, test methods and quality assurance**

#### Fittings (continued)

#### Red epoxy internal and external coating (continued)

Product	Description	Nominal Size, DN/OD (mm)
Reducers		75x50, 100x50, 100x75, 150x50, 150x75, 150x100, 200x100, 200x150, 250x150, 250x200, 300x150, 300x200, 300x250
Inspection Pipe	Round opening	50, 75, 100, 150
Inspection Pipe	Rectangular opening	100, 150, 200
Plugs		50, 75, 100, 150, 200, 250, 300
Anti-Syphon Traps		50, 75, 100, 150

#### Manufacturing location:

Wuan City Kun Yu Metal Products Co. Ltd  
Handan City  
Hebei Province  
Wu'an City  
China

First Issued: 2018-09-21

Latest Issue: 2018-09-21

Effective Date: 2018-09-21

Expiry Date: 2021-09-20

Page: 4 of 4

This certificate has been issued by and remains the property of BSI Assurance UK Ltd, Kitemark Court, Davy Avenue, Knowlhill, Milton Keynes MK5 8PP, United Kingdom and should be returned immediately upon request.

To check its validity telephone +44 (0) 345 080 9000. An electronic certificate can be authenticated [online](#).

BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.  
A member of BSI Group of Companies.

# C.W.L. epoxy coated cast iron drainage systems

## 紅坭產品目錄



KM 680722  
BS EN 877

### 証書及報告 CERTIFICATE & TEST REPORTS

#### MPA NRW (Test of 1000 hours of salt water spray passed)

Test of resistance to  
salt spray for 1000  
hours



Marsbruchstraße 186 · 44267 Dortmund · Postfach: 44265 Dortmund · Telefon (02 31) 45 02-0 · Telefax (02 31) 45 85 49 · E-Mail: info@mpanrw.de

Test report No. 22 001 2898

01/10/2018

Customer

Date of Order:

23/07/2018

Channel Win (H.K.) Limited  
Room 2602-03, 26/F  
BEA Tower, Millennium City 5  
418 Kwun Tong Road  
Kwun Tong Kowloon  
Hongkong

Receipt of sample:

23/07/2018

Test period till:

03/09/2018

Order

Test of resistance to salt spray according to DIN EN 877:2010-01 „Cast iron pipes and fittings, their joints and accessories for the evacuation of water from buildings - Requirements, test methods and quality assurance“ for 1000 hours.

Description of samples

Three coated metal sheets were provided to the Materialprüfungsamt by the customer. The specimens were coated with the coating to be tested. The samples were internal named with AA-18033.

Description of the test / regulations according to

The test resistance to salt spray was carried out in neutral salt spray for 1000 hours according to DIN EN ISO 9227:2017-07 „Corrosion tests in artificial atmospheres - Salt spray tests“.

The test results only refer to the above sample(s)/test item(s). Test reports may only be published or copied unchanged in form and contents without MPA NRW's approval. The shortened reproduction of a test report is admissible with the approval of the MPA NRW only. In case of doubt or litigation solely the German original of the test report is valid.

This test report includes 2 pages.



Test report No. 22 001 2898 dated 01<sup>st</sup> October 2018

Page 2 of 2

#### Results of the test

Resistance to neutral salt spray:

Blistering degree acc. to DIN EN ISO 4628-2	-	Rust grade acc. to DIN EN ISO 4628-3	-
Permitted blistering degree DIN EN 877	3(S3)	Permitted rust grade DIN EN 877	2
Result according to DIN EN 877	O.K.	Result according to DIN EN 877	O.K.

Dortmund, 01<sup>st</sup> October 2018  
By order

Frank  
Official in charge



# C.W.L. epoxy coated cast iron drainage systems

## 紅垵產品目錄



KM 680722  
BS EN 877

## 証書及報告 CERTIFICATE & TEST REPORTS

Classification Report No. 7191188764-MEC18/3-LGJ  
dated 03 July 2018

Note: This report is issued subject to the Testing and Certification Regulations of the TÜV SÜD Group and the General Terms and Conditions of Business of TÜV SÜD PSB Pte Ltd. In addition, this report is governed by the terms set out within this report.

**CLASSIFICATION OF REACTION TO FIRE  
IN ACCORDANCE WITH BS EN 13501-1:2007 +A1: 2009**

**Sponsor :** Channel Win (H.K.) Limited  
Room 2602-03, 26/F, BEA Tower  
Millennium City 5  
418 Kwun Tong Road  
Kwun Tong, Kowloon  
Hong Kong

**Prepared by:** TÜV SÜD PSB Pte Ltd

**Product name:** 'C.W.L.' epoxy coated cast iron pipe (4mm thick, 24.1 kg/m<sup>2</sup>)

This classification report consists of five pages and may only be used or reproduced in its entirety.

**Laboratory:** TÜV SÜD PSB Pte Ltd, No. 1 Science Park Drive, Singapore 118221  
**Phone:** +65 6885 1333  
**Fax:** +65 6778 3676  
**E-mail:** enquiry@psb.tuv-sud.sg  
**Web:** www.tuv-sud.sg  
**Co. Reg.:** 199032667R

**Regional Head Office:** TÜV SÜD Asia Pacific Pte. Ltd., 15 Science Park Drive, #02-01, Singapore 118221

Page 1 of 5

Classification Report No. 7191188764-MEC18/3-LGJ  
dated 03 July 2018

**1. Introduction**  
This classification report defines the classification assigned to 'C.W.L.' epoxy coated cast iron pipe (4mm thick, 24.1 kg/m<sup>2</sup>) in accordance with the procedures given in BS EN 13501-1:2007+A1:2009.

**2. Details of classified product**  
**2.1. End use application**  
This product 'C.W.L.' epoxy coated cast iron pipe (4mm thick, 24.1 kg/m<sup>2</sup>) is used in drainage system in construction projects.

**2.2. Product description**  
The product is fully described in the test reports in support of this classification listed in clause 3.1.

**3. Test reports and results in support of classification**  
**3.1 Test reports**

Name of laboratory	Name of sponsor	Test report reference	Test method
TÜV SÜD PSB Pte Ltd	Channel Win (H.K.) Limited	7191188764-MEC18/1-JV dated 03 Jul 2018	BS EN 13823: 2010
TÜV SÜD PSB Pte Ltd	Channel Win (H.K.) Limited	7191188764-MEC18/2-JV dated 03 Jul 2018	BS EN ISO 1716: 2010

Test method	Parameters	Number of tests	Test results	
			Measured parameters (mean values)	Compliance parameters for A2-s1, d0
BS EN 13823	FIGRA <sub>0,200</sub> (W/s)	3	0.0	≤ 270
	FIGRA <sub>0,200</sub> (W/s)		0.0	≤ 7.5
	THR <sub>0,200</sub> (MJ)		No	No
	LFS to edge (Yes / No)		No	≤ 105
	SMOGRA (m <sup>2</sup> /s <sup>2</sup> )		18.2	≤ 250
	TSP <sub>0,200</sub> (m <sup>2</sup> )		No	No
	Flaming Droplets / Particles (sec)		No	No
BS EN ISO 1716	PCS (MJ/m <sup>2</sup> ) for external non-substantial component	3	2.34	≤ 4.0

\*\*\* - denotes threshold not reached

Page 2 of 5

Classification Report No. 7191188764-MEC18/3-LGJ  
dated 03 July 2018

**4. Classification and field of application**  
**4.1. Reference of classification**  
This classification has been carried out in accordance with clause 11 of BS EN 13501-1:2007 +A1: 2009.

**4.2. Classification**  
The product, 'C.W.L.' epoxy coated cast iron pipe (4mm thick, 24.1 kg/m<sup>2</sup>), in relation to its reaction to fire behaviour meets the requirements to be classified as **A2**.  
The additional classification in relation to smoke production is: **s1**  
The additional classification in relation to flaming droplets / particles is: **d0**

Fire behaviour	Smoke production	Flaming droplets
A2	s1	d0

Therefore, the classification of 'C.W.L.' epoxy coated cast iron pipe (4mm thick, 24.1 kg/m<sup>2</sup>), in accordance with BS EN 13501-1:2007 +A1:2009 is:

**Reaction to fire classification: A2-s1,d0**

Page 3 of 5



At start of test



At 10 mins of test



At end of test

# Contact Us



info@channel-win.com.hk



(852) 2384 8990  
(852) 2785 8789



(852) 2398 7961



Unit C, 20/F., Ford Glory Plaza  
37-39 Wing Hong Street, Cheung Sha Wan, Kowloon  
九龍長沙灣永康街37-39號福源廣場20樓C室



昌永(香港)有限公司  
Channel Win (H.K.) Limited

[www.channel-win.com.hk](http://www.channel-win.com.hk)