# Panasonic

WHITE CONDUIT **POLYETHYLENE-LINING STEEL PIPE** STAINLESS STEEL CONDUIT PIPE







White Conduit Pipe and Fittings (UL, BS)



Polyethylene-Lining Steel Pipe

Please contact:

# **Panasonic**

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**Panasonic Corporation Life Solutions Company** 





# **Certificates**

# ISO 9001 & ISO 14001



Certificate No. TH98/4954



Certificate No. TH99/6248

# **Certification Acquired Worldwide**









**UL 797 (EMT)** 

**UL 1242 (IMC)** 

UL 6 (RSC)









UL 1 (FLEXIBLE METAL CONDUIT) UL 514B (UL Fittings)



TIS770 (EMT/IMC/RSC)

# **Compliances**









**BS31** 

**BS4568 CLASS4** 

**BS4568 CLASS3** 

KS C8401 (E&G Conduit)

# Sales

We are proud of our sales records both in Thailand and export to overseas to South-East and North-East Asia, Middle East, Africa, Europe, and USA



# **Outstanding Features of Panasonic White Conduit**

Superior galvanizing by in-line hot-dip process for greater protection against corrosion. Finished with durable and clear anti-corrosion coating for higher protection outside and higher grade epoxy coating inside.

### **Features**

### 1) Easy and accurate bending

Panasonic White Conduit is made of high quality steel and processed by high frequency induction welding to prevent cracking when bend.

### 2) Easy wire pushing and pulling

The high-grade stoved epoxy resin coating on the inside wall makes wire-pulling easy, and protects against corrosion.

### 3) Easy coupling and fast installation

Precise, sharp threads cut by automated machinery means fast and easy installation. Precise thread also makes our conduit virtually moisture-tight.

### 4) High corrosion resistance

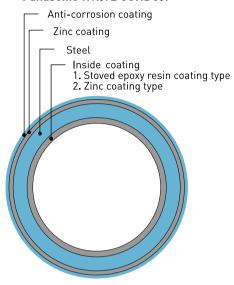
Pure zinc coating on the exterior wall and stoved epoxy resin finish on the inside protects WHITE CONDUIT from corrosion, even by harsh chemicals and sea air.

### 5) Uniform quality

Flat steel is rolled, zinc-coated and threaded in one continuous automated process for uniform high quality.



### **CROSS-SECTIONAL VIEW OF** Panasonic WHITE CONDUIT



### **Standards**

Panasonic WHITE CONCUIT is available in five types conforming to the following standard:

- \*UL/ANSI (EMT, IMC and RSC)
- \*BS (BS31-1940 and BS4568-1970) \*TIS770
- \*JIS (Plain, Thin Wall and Thick Wall)
- \*KS (Plain and Thick Wall)



# Flow Chart of Manufacturing Process

### 1) Uncoiling

High quality strip steel coils are uncoiled and sent to the forming mills.

### 2) Coil-end welding

Both ends of the coils are welded to form a single strip. 12)Anti-corrosion coating

### 3) Temporary coil-storing

Strip steel is stored here temporarily for coil end welding without stopping the main line.

### 4) Cleaning

All surface scale and oil on the strip steel are removed to assure accurate forming and regid

### 5) Forming

The flat strip steel is rolled into basic tubing.

### 6) Welding

Basic tubes are welded by a high frequency induction welder. This type of welding assures rigidity, splittingresistance and effectively eliminates inside flash.

### 7) Inside coating

The inside wall of the conduit is coated with epoxy resin.

### 8) Cleaning

All surface scale and oil are removed from the tubing before galvanizing.

### 9) In-line Hot-Dip Galvanizing

10) Cooling

The exterior of the tubing is uniformly and rigidly galvanized by a patented in-line hot-dip process.

### 11) Sizing

The cooled, galvanized tubing is rolled to precise outside diameters in accordance with customer specifications.

For protection in addition to zinc coating, the gaivanized surface is finished with a clear anticorrosion coating.

### 13)Cutting

Tubing is square-cut to the specified lengths.

### 14)Chamfering and threading

Both ends of the cut conduit are chamfered and threaded to precise tolerance.

### 15) Marking

Brand name, size, standards, production codes. etc. are marked on the conduit.

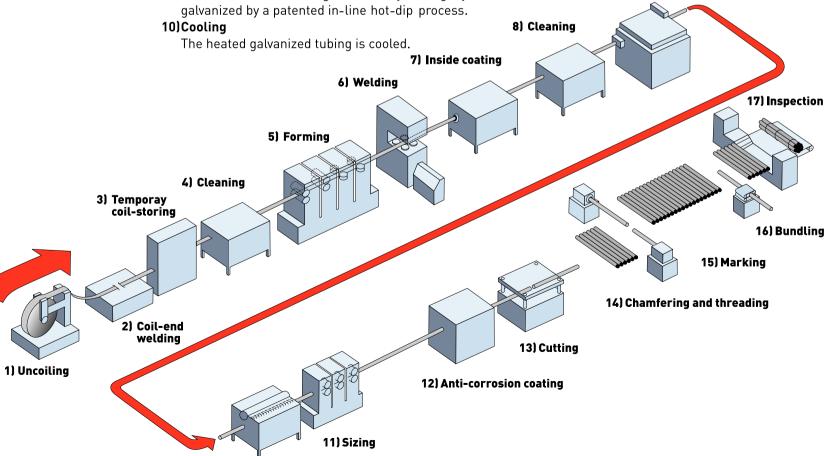
### 16)Bundling

Finished conduit is steel strapped into approximately one metric ton bundle.

### 17)Inspection

At all steps of production, strict quality control is enforced. Unless customer specifies UL, or other certificates, all conduit is inspected according to factory specifications.

### 9) In-line Hot-Dip Galvanizing



3

# **Outstanding Quality of Panasonic**

EMT,BS4568 CLASS 3 Conduit



### 2 Layers Coating Technology by Panasonic

# CROSS-SECTIONAL VIEW OF Panasonic WHITE CONDUIT Anti-corrosion coating Zinc coating Steel Stoved epoxy resin coating

### Copper sulphate

Outside coating: Coated with zink by in-line galvanizing process which makes our coating better. Moreover, we have final anti-corrosion coating for additional protection.



Criteria

- UL797 Clause 6.2.2 (Protective Zinc coating)
- Product passes if they do not show a bright adherent deposit of copper after four 60 seconds immersions in the copper sulphate solution.

0 cycle	1 cycle	2 cycle	3 cycle	4 cycle
811	1888		100	<b>2316</b>
-111		医田		2 11
4.0.0	Pass	Pass	Pass	Pass

Result: Fully confirm to the above requirement of UL



Test Std: BS4568 ClauseA.3.3 (Protective Zinc coating)

 ${\it Criteria:} \qquad {\it Product pass if they do not show a bright adherent}$ 

deposit of copper after four 60 second immersions

in the copper sulphate solutions.

Result: No formation of red rust. (Superior resistance to corrosion)



### Salt spray test

Method : It involves spraying of salt solution on the sample being tested inside

a temperature controlled chamber.

Duration: 480 hours or more.

Result : No formation of red rust. (Superior resistance to corossion)

96 hours	168 hours	240 hours	336 hours	408 hours	480 hours
		D	THE PERSON NAMED IN		To the second
Result White Rust 30%	Result White Rust 80%	Result White Rust 90%	Result White Rust 100%	Result White Rust 100%	Result White Rust 100%

### Under testing corrosion will appear as - White rust & Red rust

### White rust

It is the formation of zinc oxide and looks like white powder on top of Zinc plated steel. The good thing about it is that this form of rust is not affecting the base material. It does not indicate serious degradation of zinc coating nor does necessarily it imply any likely reduction in the expected life of the product

### Red rust

It is caused by the corrosion of steel substrate where zinc coating has broken down completely. The most important thing about red rust is that this form of rust is affecting the base material resulting in the degradation of material .



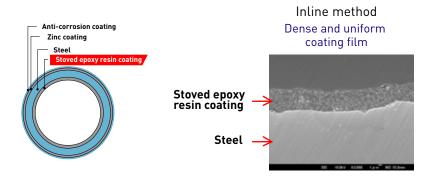
White rust



Red rust

# 2. Superb INSIDE Surface!

### Rust Proof & Smooth Seam! Special Coating Technology by Panasonic

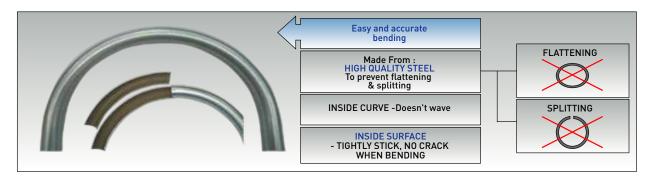




# 3. Superb Bending!

# Smoothly and No Damage in Any Bending Angle! Exclusive Material & Process by Panasonic

By the use of high quality manufacturing and high quality steel Panasonic conduit can bend smoothly and there is no damage in any bending angle.



Panasonic conduits are manufactured from high quality steel & processed by high frequency induction welding therefore the finished tube in uniform in OD, wall thickness & ductility.

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## White Conduit & Conduit Fittings ANSI/UL



### **EMT (Electrical Metallic Tubing)**

Listed by "UL" File No. E-44051

Item No.	Size (inch)	Outside diameter (mm)	Target Wall Thickness (mm)	Length (mm)	Target Weight (Kg/Pc)	Primary Bundle (Pcs)	Master Bundle (Pcs)
DWE012Y	1/2	17,93	1.04	3,048	1.32	10	500
DWE034Y	3/4	23,42	1.20	3,048	2.01	10	300
DWE100Y	1	29.54	1.39	3,048	2.94	5	200
DWE114Y	1-1/4	38.35	1.59	3,048	4.40	5	125
DWE112Y	1-1/2	44.20	1.59	3,048	5.10	5	100
DWE200Y	2	55,80	1.59	3,048	6.49	3	75
DWE212Y	2-1/2	73.03	1.74	3,048	9.33		40
DWE300Y	3	88.90	1.74	3,048	11.41	-	30
DWE312Y	3-1/2	101.60	1.97	3,048	14.77		20
DWE400Y	4	114.30	1.99	3,048	16.82	-	20

### IMC (Intermediate Metal Conduit)

Listed by "UL" File No. E-62193

UL 1242

UL 6

Item No.	Size (inch)	Outside diamet (mm)	er Target Wall Thickness (mm)	Length (mm)	Target Weight (Kg/Pc)	Primary Bundle (Pcs)	Master Bundle (Pcs)
DWM012Y	1/2	20 70	1.81	3,030	2.56	10	300
DWM034Y	3/4	26 14	1.92	3,030	3.48	5	250
DWM100Y	1	32 77	2.18	3,025	4.96	5	125
DWM114Y	1-1/4	41 59	2.18	3,025	6.41	3	75
DWM112Y	1-1/2	47 81	2.31	3,025	7.84	3	75
DWM200Y	2	59.93	2.43	3,025	10.42		50
DWM212Y	2-1/2	72 56	3.60	3,010	18.43	-	40
DWM300Y	3	88 29	3.60	3,010	22.63	l l	30
DWM312Y	3-1/2	100.86	3.60	3,005	25.95	-	20
DWM400Y	4	113,40	3.60	3,005	29.29		15

### RSC (Rigid Steel Conduit/ Hot-Dip Galvanized Outside and Epoxy Resin Inside)

Listed by "UL" File No. E-157617

Item No.	Size (inch)	Outside diameter (mm)	Target Wall Thickness (mm)	Length (mm)	Target Weight (Kg/Pc)	Primary Bundle (Pcs)	Master Bundle (Pcs)
DWR012Y	1/2	21.34	2.56	3,030	3.59	10	300
DWR034Y	3/4	26.67	2.66	3,030	4.77	5	250
DWR100Y	1	33 40	3.06	3,025	6.93	5	125
DWR114Y	1-1/4	42 16	3.12	3,025	9.09	3	75
DWR112Y	1-1/2	48.26	3.35	3,025	11.22	3	75
DWR200Y	2	60,33	3.53	3,025	14.96	H	50

### RSC (Rigid Steel Conduit/ Hot-Dip Galvanized both Inside and Outside)

Listed by "UL" File No. E-157617

UL 6

Item No.	Size (inch)	Outside diameter (mm)	Target Wall Thickness (mm)	Length (mm)	Target Weight (Kg/Pc)	Primary Bundle (Pcs)	Master Bundle (Pcs)
DWR012ZY	1/2	21 34	2.60	3,030	3.64	10	300
DWR034ZY	3/4	26 67	2.72	3,030	4.87	5	250
DWR100ZY	1	33 40	3.16	3,025	7.13	5	125
DWR114ZY	1-1/4	42 16	3.22	3,025	9.35	3	75
DWR112ZY	1-1/2	48 26	3.42	3,025	11.44	3	75
DWR200ZY	2	60 33	3.60	3,025	15.23	-	50
DWR212ZY	2-1/2	73 03	4.73	3,010	23.98	-	40
DWR300ZY	3	88 90	5.09	3,010	31.66	-	30
DWR312ZY	3-1/2	101,60	5.26	3,005	37.55	_	20
DWR400ZY	4	114,30	5.52	3,005	44.50	-	15
DWR500ZY	5	141 30	6.02	2,995	60.15	_	10
DWR600ZY	6	168,28	6.56	2,995	78.35		5



### Connector (Steel) (for EMT)



200						2014		
Item No.	Size (inch)	Standard Pack (Pcs / Box)	Weight (Kg/Pc)	Item No.	Size (inch)	Standard Pack (Pcs / Box)	Weight (Kg/Pc)	
DSE 01012Y	1/2	300	0.038	DFM 020122Y	1/2	300	0.040	
DSE 01034Y	3/4	200	0.071	DFM 020342Y	3/4	200	0.066	
DSE 01100Y	1	100	0.095	DFM 021002Y	1	100	0.086	
DCE 0111/V	1 1//	40	0.1/7					

**EMT Coupling-Set Screw type** 

1-1/2

2

UL Listed

DSE 01112Y

DSE 01200Y

Coupling (Steel) (for EMT)

60

30



0.178

0.261

**EMT** Connector-Set Screw type **UL** Listed





Item No. Size (inch)		Standard	Pack (Pcs)	Weight	Item No.	Size	Standard	Pack (Pcs)	Weight	
		Inner box	Outer box	(Kg/Pc)	itelli No.	(inch)	Inner box	Outer box	(Kg/Pc)	
DSU 01012YK/C	1/2	60	300	0.032	DFU 020122YK/C	1/2	60	300	0.032	-
DSU 01034YK/C	3/4	40	200	0.048	DFU 020342YK/C	3/4	40	200	0.047	
DSU 01100YK/C	1	25	100	0.078	DFU 021002YK/C	1	25	100	0.079	
DSU 01114YK/C	1-1/4	20	60	0.145	DFU 021142YK/C	1-1/4	20	60	0.133	_
DSU 01112YK/C	1-1/2	20	60	0.179	DFU 021122YK/C	1-1/2	20	60	0.158	-
DSU 01200YK/C	2	15	30	0.243	DFU 022002YK/C	2	15	30	0.217	
DSU 01212YK/C	2-1/2	-	20	0.613	DFU 022122YK/C	2-1/2	-	20	0.554	
DSU 01300YK/C	3	-	15	0.766	DFU 023002YK/C	3	-	15	0.725	
DSU 01312YK/C	3-1/2	-	10	0.914	DFU 023122YK/C	3-1/2	-	10	0.835	-
DSU 01400YK/C	4	- 1	10	1.069	DFU 024002YK/C	4	-	10	1.005	
*** 14: 14:	. 01 :	1 0: :11 01:			***************************************	. 01 :	1 0: :11 01:			

<sup>\*</sup>Note : K is without China mark, C is with China mark.

EMT Coupling-Compression type
III Listed UL 514B

\*Note: K is without China mark, C is with China mark.

EMT Connector - Compression type/ EMT Connector - Compression type (With Bushing) **UL** Listed



Item No.	Size	Standard									Standa	rd Pack (Pcs)	Weight
	(inch)	(inch) Inner box Outer box (Kg/Pc)		(inch)	Inner box Outer box		(Kg/Pc)						
DSE 21012YK	1/2	60	300	0.066	DSE 22012YK/CYK	1/2	60	300	0.046/0.051				
DSE 21034YK	3/4	40	200	0.091	DSE 22034YK/CYK	3/4	40	200	0.071/0.073				
DSE 21100YK	1	20	100	0.130	DSE 22100YK/CYK	1	20	100	0.114/0.115				
DSE 21114YK	1-1/4	30	90	0.211	DSE 22114YK/CYK	1-1/4	30	90	0.179/0.190				
DSE 21112YK	1-1/2	20	60	0.241	DSE 22112YK/CYK	1-1/2	20	60	0.210/0.218				
DSE 21200YK	2	15	45	0.277	DSF 22200YK/CYK	2	15	45	0.275/0.276				