

“ Excellent Grade Safety Device ”

DAIWA
S u p e r



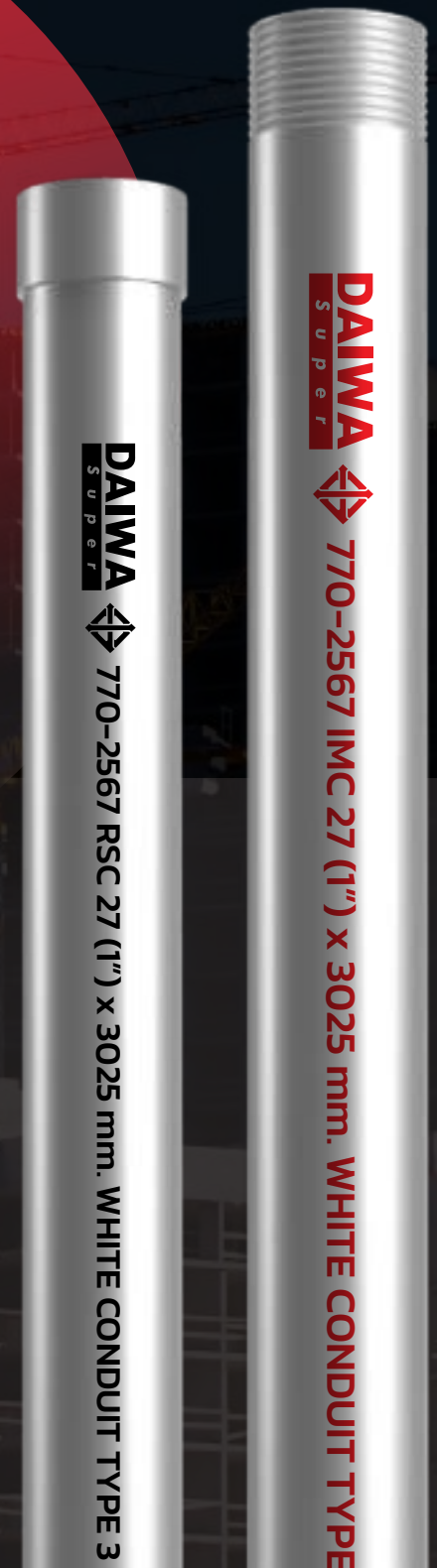
Strong and long-lasting
rust protection



Fire-resistant, non-flammable,
and safe for electrical systems



Can be bent at
90-degree angle



ASTM
STANDARD
A123





Trade Size Designator	mm	Type	15	20	25	32	40	50	65	80	90	100	125	150
	inch		1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	3-1/2	4	5	6
IMC		3												
RSC		3												

Key Features of DAIWA SUPER Electrical Conduit

1. Heavy-Duty Zinc-Coated Steel Conduit for Industrial Electrical Systems

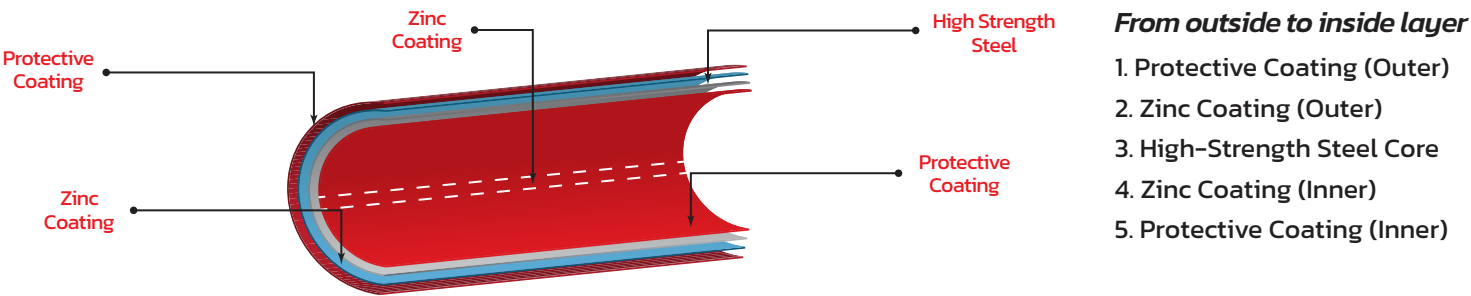
Manufactured in accordance with TIS 770-2567 Type 3, Class D (Zinc-coated steel sheet with additional interior and exterior protection) Ideal for coastal environments and heavy-duty industrial applications.

2. Exceeds TIS Standard with Industrial-Grade Coating Thickness

TIS 770-2567 requires a minimum zinc coating of 20 microns, but DAIWA SUPER offers two superior options:

3. DAIWA SUPER has passed zinc coating durability tests in accordance with ASTM A239 and UL 1242 (5-dip copper sulfate test), ensuring superior corrosion resistance that meets international industrial standards.

Coating thickness (Micron)			
TIS 770-2567	ASTM A123 (Minimum Avg)		
DAIWA	DAIWA SUPER		
>= 20 micron	TH 1.6 to under 3.2 mm. 45 micron	45 – 55 micron (High Micron Series)	
	TH 3.2 to under 6.4 mm. 75 micron	50 – 55 micron (High Micron Series)	75 – 85 micron (Hot Dip Series)



ASTM A123 / A123 M-17

Minimum Average Coating Thickness Grade						
Material Category	All Specimens Tested					
	< 1.6	≥ 1.6 to < 3.2	≥ 3.2 to < 4.8	≥ 4.8 to < 6.4	≥ 6.4 to < 16.0	≥ 16.0
Structural Shapes	45	65	75	75	100	100
Strip and Bar	45	65	75	75	75	100
Plate	45	65	75	75	75	100
Pipe and Tubing	45	45	75	75	75	75
Wire	35	20	60	65	80	80
Reinforcing Bar	...	...	...	...	100	100



Key Engineering Features of **DAIWA SUPER**

1. High Ductility Steel – Bend Without Cracking

Made from cold-rolled zinc-coated steel, welded by high-frequency ERW process, allowing tight-radius bends without cracking along the weld seam.

2. Smooth Bore Finish – Low Friction for Easy Wire Pulling

Internal surface is continuously formed and quality-controlled to ensure smoothness, reducing friction and preventing cable insulation damage during installation.

3. Threadability & Coupling Ready

Precisely round pipe ends with consistent diameter allow direct NPT threading without adjustment. Supplied with pre-threaded galvanized steel couplings.

4. Heavy Zinc Coating ($\geq 45/75 \mu\text{m}$) Zinc coating applied according to ASTM A123 for superior corrosion resistance, especially in humid, coastal, or chemically exposed environments.

5. Fully Automated Continuous Production Line

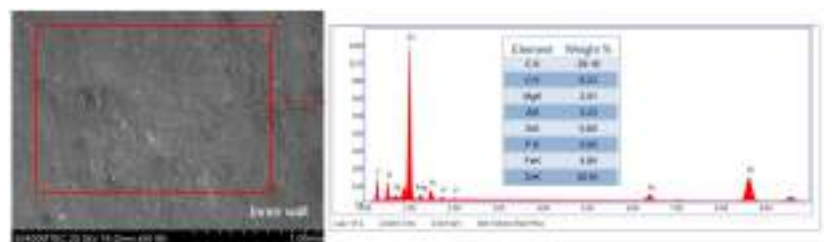
Pipes are manufactured on an automated line that integrates rolling, welding, coating, and threading to ensure dimensional accuracy and consistent quality.

6. RoHS Compliant – Free from Hazardous Substances

Contains no lead (Pb), mercury (Hg), cadmium (Cd), hexavalent chromium (Cr6+), or brominated flame retardants (PBB, PBDE), making it safe for people and the environment.

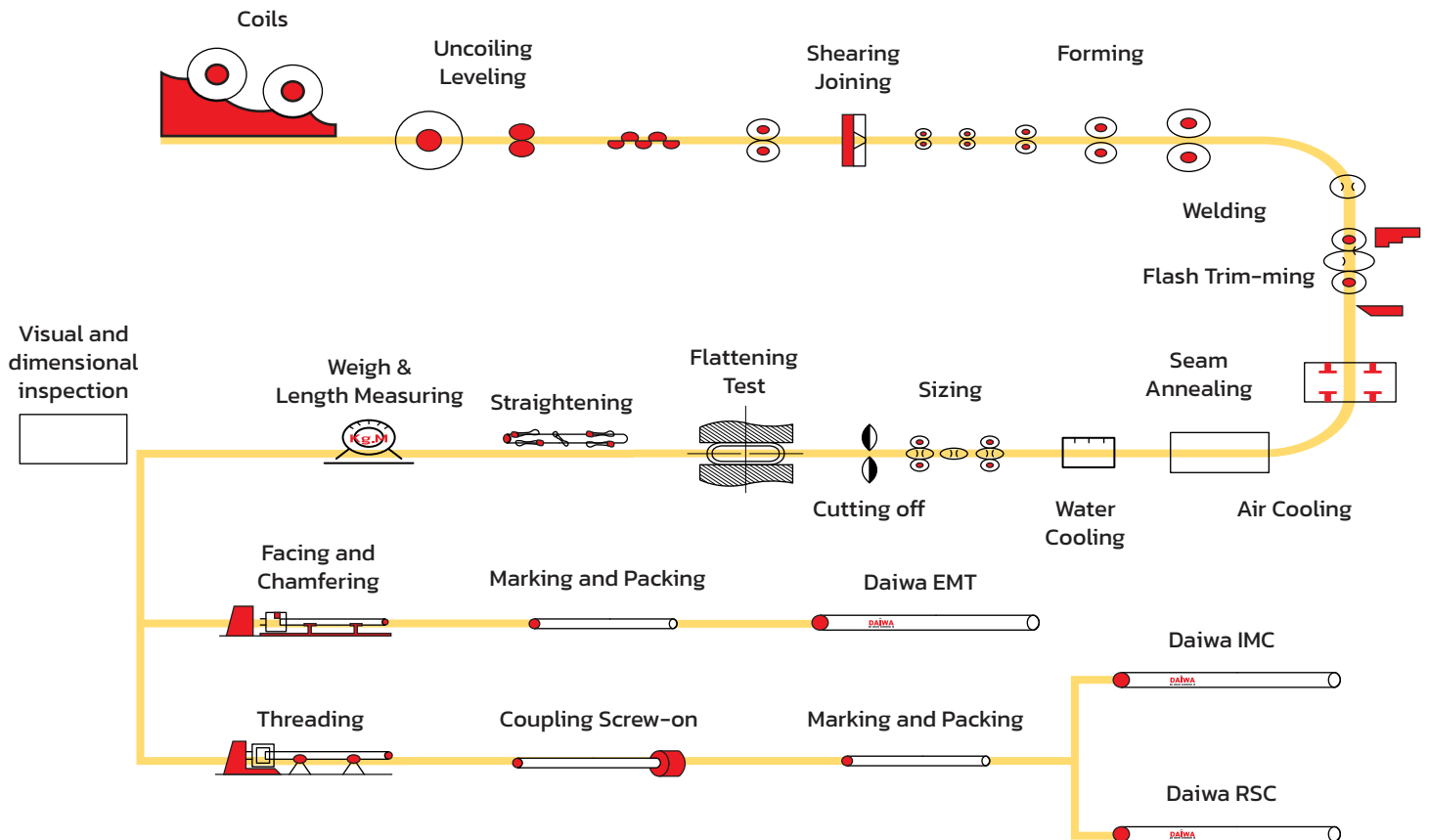


Surface Analysis with SEM/EDS



DAIWA Steel Conduit

Manufacturing Process



1. Coils

High-strength galvanized steel coils are prepared for processing.

2. Uncoiling & Leveling

Steel coils are uncoiled and leveled to ensure flatness and stability for precise forming.

3. Shearing & Joining

Steel is cut to required width and joined by continuous strip welding to allow uninterrupted flow.

4. Forming

Flat steel is progressively formed into a circular tube shape through roll forming.

5. Welding (HF-ERW)

The pipe edges are welded using High-Frequency Electric Resistance Welding (HF-ERW) to create a strong, seamless joint.

6. Flash Trimming

Excess weld bead is trimmed to ensure a smooth surface along the weld seam.

7. Seam Annealing

Heat treatment is applied along the weld seam to relieve internal stress and improve ductility.

8. Air Cooling

Pipes are cooled using ambient air to stabilize shape and structure.

9. Water Cooling

Rapid cooling with water ensures dimensional accuracy and mechanical strength.

10. Sizing

Final sizing is done to ensure consistent outer diameter across all pipes.

11. Cutting Off

Pipes are cut to standard lengths (typically 3.05 m) using high-precision cutting equipment.

12. Flattening Test

A sample from each batch is tested to verify ductility and weld integrity.

13. Straightening

Minor adjustments are made to ensure pipes are perfectly straight for installation accuracy.

14. Weighing & Length Measuring

Each pipe is weighed and measured to confirm compliance with dimensional standards.

15. Visual & Dimensional Inspection

Quality control checks are conducted for surface finish, diameter, and overall dimensions.

IMC : Intermediate Metal Conduit

American Standard Intermediate Metal Conduit

: ANSI C.80.6 and UL1242 standards.



Size	Outside diameter (mm.)		Wall thickness (mm.)		Length does not include threaded (mm.)		Minimum mass per pipe Including threaded (10 sets) kg.
	Lowest	Highest	Lowest	Highest	Specified	Criteria	
16	20.57	20.83	1.79	2.16	3 030	±6	25.4
21	26.01	26.26	1.90	2.29	3 030		34.6
27	32.64	32.89	2.16	2.54	3 025		49.9
35	41.40	41.78	2.16	2.67	3 025		64.3
41	47.62	48.01	2.29	2.79	3 025		79.1
53	59.74	60.12	2.41	2.92	3 025		105.2
63	72.31	72.82	3.56	4.06	3 010		186.2
78	88.04	88.54	3.56	4.06	3 010		229.0
91	100.61	101.12	3.56	4.06	3 005		263.0
103	113.18	113.69	3.56	4.06	3 005		296.1

Note: 1) Minimum mass per pipe including threaded joints, per 10 sets of pipes, shall be tested at the manufacturer's factory.

- DAIWA SUPER offers two options for zinc coating thickness, allowing engineers to select the right product based on application type and environmental exposure :
- 1. High Micron Series comply ASTM A123 (rangeTH under 3.2 mm. min 45 micron) Average zinc coating thickness of 45–55 microns, significantly exceeding the minimum requirement of TIS 770–2567
 - 2. Hot-Dip Series Zinc coating applied via Hot-Dip Galvanizing in full compliance with ASTM A123 standard, providing enhanced protection for harsh and corrosive environments.

Size	Inch.	Wall thickness (mm.)		Coating thickness (Micron)			
		Min	Max	TIS 770-2567	ASTM A123 (Minimum Avg)		
				DAIWA	DAIWA SUPER		
16	1/2"	1.79	2.16	≥ 20 micron	TH 1.6 to under 3.2 mm. 45 micron	45 – 55 micron (High Micron Series)	
21	3/4"	1.90	2.29				
27	1"	2.16	2.54				
35	1-1/4"	2.16	2.67				
41	1-1/2"	2.29	2.79				
53	2"	2.41	2.92				
63	2-1/2"	3.56	4.06		TH 3.2 to under 4.8 mm. 75 micron	50 – 55 micron (High Micron Series)	75 – 85 micron (Hot – Dip Series)
78	3"	3.56	4.06				
91	3-1/2"	3.56	4.06				
103	4"	3.56	4.06				

RSC : Intermediate Metal Conduit

American Standard Rigid Steel Conduit

: ANSI C.80.1 and UL6 standards.



Size	Outside diameter (mm.)		Wall thickness (mm.)		Length does not include threaded (mm.)		Minimum mass per pipe Including threaded (10 sets) kg.
	Lowest	Criteria	Lowest	Criteria	Specified	Criteria	
16	21.34	±0.38	2.64	-12.5%	3 030	±6	35.83
21	26.67		2.72		3 030		47.63
27	33.40		3.20		3 025		69.40
35	42.16		3.38		3 025		91.17
41	48.26		3.51		3 025		112.95
53	60.33	±1%	3.71		3 025		150.60
63	73.03		4.90		3 010		239.05
78	88.90		5.21		3 010		309.63
91	101.60		5.46		3 005		376.94
103	114.30		5.72		3 005		441.04
129	141.30		6.22		2 995		595.85
155	168.28		6.76		2 995		791.67

Note : 1) Minimum mass per pipe including threaded joints, per 10 sets of pipes, shall be tested at the manufacturer's factory.

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				TIS 770-2567		ASTM A123 (Minimum Avg)	
		Min	Max	DAIWA		DAIWA SUPER	
16	1/2"	2.31	2.64	>= 20 micron	TH 1.6 to under 3.2 mm. 45 micron	45 – 55 micron (High Micron Series)	
21	3/4"	2.38	2.72			TH 3.2 to under 4.8 mm. 75 micron	75 – 85 micron (Hot – Dip Series)
27	1"	2.80	3.20				
35	1-1/4"	2.96	3.38				
41	1-1/2"	3.07	3.51				
53	2"	3.25	3.71				
63	2-1/2"	4.29	4.90			TH 4.8 to under 6.4 mm. 75 micron	50 – 55 micron (Hot – Dip Series)
78	3"	4.56	5.21				
103	4"	5.01	5.72				
129	5"	5.44	6.22				

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“ EXCELLENT GRADE
SAFETY DEVICE ”

For Safe Wiring, Choose **DAIWA**



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