



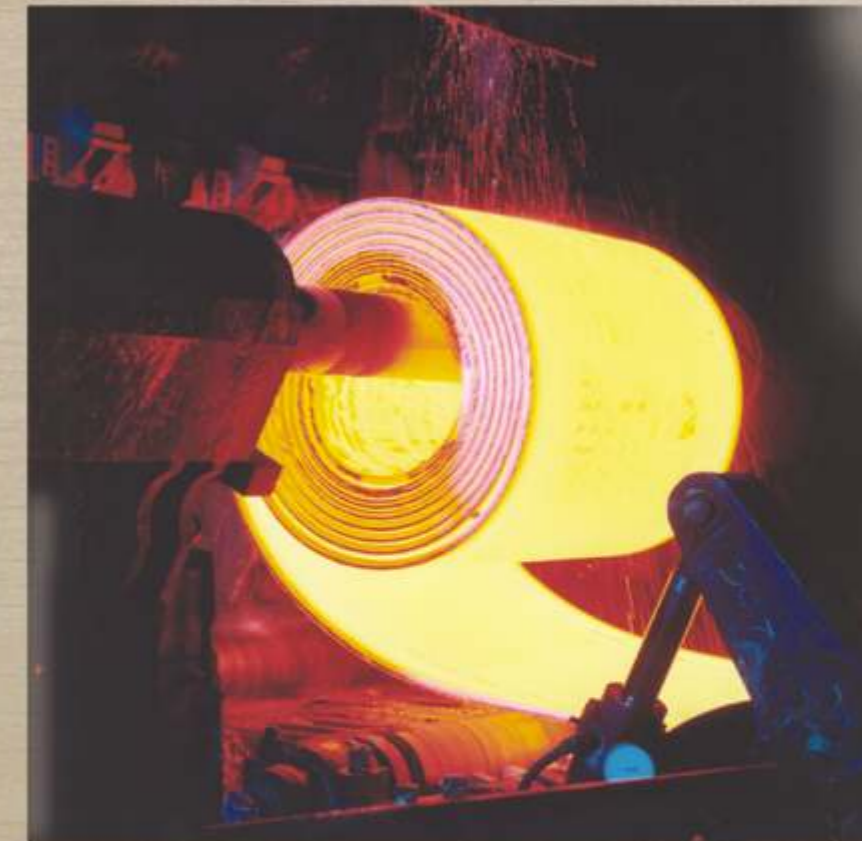
*Tionale Enterprises Pte. Limited*  
*Building Materials Division*



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**TIONALE ENTERPRISES PTE LIMITED**  
**BUILDING MATERIALS DIVISION**





*Incorporated in 1982 at Singapore, Tionale Enterprises Pte Limited is a multi location global organization with investments in manufacturing, trading & distribution. Our operations span markets in Asia, Africa, Europe & America where we have established ourselves as a reliable & preferred supplier to quality conscious customers in over 80 countries.*

*Our business has been built on our philosophies of "Deliver what we promise" and "Add value to customers"*

*The Building Materials Division is a well established supplier of Cold rolled, Galvanised & Aluzinc coated steel to major end users across the world. Products are supplied in coils, cut sheets & corrugated sheets depending on end user requirement & application. The main focus is on thinner gauges with supplies starting from 0.12 mm thickness upwards. All products are subject to stringent quality control by Tionale's team of technical specialists & originate from partner factories in Asia.*

*This Division also works closely with customers to supply related building material products like Galvanised Pipes, ERW sections, Wires & Plywood.*



## COLD ROLLED COILS

Cold rolled coils suitable for general engineering and galvanizing operations are processed on high speed reversing or tandem mills. These coils are shipped in excellent export packing with adequate protection against multiple handling and long voyages.

Standards	JISG 3141, ASTM 1008, DIN1623, EN10130, BS1449
Temper	Full hard, CRCA
Thickness range	0.10mm upwards for full hard and 0.20mm upwards for CRCA. CRCA is supplied in skin passed condition
Width	750-1250mm
Coil weights	3 MT upwards
Flatness standard	½ of JIS Table A

## GALVANIZED STEEL

Galvanized steel is supplied in coil, flat sheet and corrugated sheet form. They are produced on modern galvanizing lines using high quality cold rolled coils and LME registered zinc.

Standards	JIS G3302, ASTM 653, DIN 10142, BS 2928
Temper	Full hard, Soft
Coating	120 gms /sq meter upwards
Thickness range	0.10mm upwards for full hard quality and 0.20mm upwards for soft.
Width	750-1250mm
Coil weights	3 MT upwards
Supply conditions	cut plain sheets, corrugated sheets with corrugations as per JIS standard.



## PPGI and ALUZINC

Superior aesthetics and protection offered by these products make them the choice of the discerning user. PPGI is supplied in coil form while Aluzinc could be offered in cut sheet and corrugated form as well. A wide choice of sizes, coating and colours are available.

	PPGI	ALUZINC
Standards	JIS G3312 on base of GI or Aluzinc	JIS G3321, ASTM A792
Temper	Soft / Commercial quality	SGLC570, SGLCC
Thickness range	0.25mm upwards	0.18mm upwards
Width	900-1250mm	900-1250mm
Coil weights	3 MT upwards	3 MT upwards
Coating	Primer + top coat (polyester, silicone modified polyester, epoxy). Back coat standard service coat.	Al 55%, Zinc 45% coating in weights of 60gms/sq meter upwards. Aluzinc could be supplied with either anti-finger print or passivated treatment.

## ALUMINUM

Light weight, durability and aesthetics of aluminum has made it a convenient alternative to Steel in several applications. Aluminum coils are supplied for applications including roofing, flooring, utensils and general engineering.

	Roofing / General Engineering	Utensils
Alloys	3003, 3105, 8011	1050, 1070, 1200, 3003, 3103, 8011
Temper	O, H14, H16, H18	O, H14, H16, H18
Thickness	0.30mm upwards	0.71-6.35mm
Width/Diameter	Upto 1250mm	102-1250mm
Surface	Plain, stucco embossed,	Free from scratches, pit and rolling marks



## ERW SECTIONS AND GALVANIZED PIPES

**ERW Sections** are used for furniture, structural and general engineering applications. These sections comply with most international standards. The sections available are square, rectangular and round.

Galvanized Steel pipes are used for water transportation, scaffolding, electric poles and other general engineering applications. These pipes with heavy zinc coatings offer good corrosion resistance and generally conform to BS 1387 standard. Pipes are available as screwed and socketed or as plain ends.

Both ERW Sections and GI pipes are produced in well equipped manufacturing facilities audited by our in house technical experts.

	ERW	GI Pipes
Sizes	10x10~150x150	1/2"-6"
Length	5.8 mtrs in 20' fcl	5.8 mtrs in 20' fcl

## WIRES AND NAILS

**Black annealed wires** are soft and offer strength and flexibility which arises primarily on account of the oxygen free annealing process. The wires are used for binding, baling and other such applications. Black annealed wires are available from 1.1mm diameter upwards.

**Galvanized wires** are used for fencing, electrical cables, wire mesh, hangers, netting and other applications. These GI wires carry heavy zinc coating and offer good corrosion protection. GI wires are available in diameters from 0.70mm up to 4mm.

**Wire nails** are supplied in flat head, counter sunk, diamond/needle tip with smooth or flute shanks. These nails are used for masonry and carpentry applications. Nails can be supplied in loose packing or carton packing depending on customer needs.

**Roofing nails** are a substitute for masonry nails used in roofing applications. They offer better protection against rusting than masonry nails. Roofing nails are typically supplied in lengths of 1-1/2", 1-3/4", 2", 2-1/2", 3", 3-1/2" and in diameter BWG9-BWG13. The shank is either twisted or plain.



## PLYWOOD

Plywood is supplied in qualities BB/BB, BB/CC & CC/DD.  
The broad technical conditions of supply are as follows:

1. Face/Back : okume, birch, oak, bintangor, meranti, fir
2. Core : poplar, hardwood, combo
3. Dimensions : 1,250 x 2,500mm, 4 x 8', 3' x 6', 3' x 7', 4' x 7'
4. Glue : MR, WBP, E1, E2, MF
5. Thickness : 2.5- 25mm

The no of pieces per CBM size wise is as follows:

Thickness in mm	Sheets/CBM
2.5	134
3	111
5	67
6	55
8	41
10	33
12	27
15	22
18	18

Loadability in 40' HC is usually around 51 CBM (depends on assortment).  
Palletized packing is available upon request.



## DATA SHEET

Meterage for steel flat products

	Galvanized			Aluzinc			PPGI		
Meters per metric tons									
	762	914	1000	762	914	1000	762	914	1000
MM	Z-12 coating			Az 70 coating			Range unavailable		
0.12	1205	1004	918	Range unavailable					
0.13	1129	939	858						
0.14	1057	881	805						
0.16	941	785	717						
0.18	849	707	647	885	738	674			
0.20	772	644	589	800	667	610			
0.22	709	591	540	730	609	556			
0.25	631	526	481	646	538	492	669	558	510
0.30	533	445	406	541	451	412	558	465	425
0.35	462	385	352	466	388	355	478	399	365
0.40	407	339	310	409	341	312	418	349	319
0.50	329	275	251	328	274	250	335	279	255
0.60	276	230	211	275	229	209	279	233	213

## GALVANIZED PIPES - PIECES PER MT

Size	Extra Light		Light		Medium		Heavy	
	Wall Thickness	Pcs/MT	Wall Thickness	Pcs/MT	Wall Thickness	Pcs/MT	Wall Thickness	Pcs/MT
½"	1.80	200	2.00	181	2.60	143	3.20	114
¾"	2.00	142	2.30	124	2.60	111	3.20	89
1"	2.30	97	2.60	86	3.20	71	4.00	56
1¼"	2.30	75	2.60	67	3.20	55	4.00	43
1½"	2.60	59	2.90	53	3.20	48	4.00	38
2"	2.60	46	2.90	41	3.60	33	4.50	26
2½"	2.90	34	3.20	31	3.60	26	4.50	21
3"	2.90	28	3.20	27	4.00	20	4.80	16
4"	3.20	20	3.60	19	4.50	13	5.40	11
6"	4.0	11	4.50	10	4.80	9	5.40	8