QC Quality Management System

Short / Audit Version

1. Abstract

This audit report is prepared according to the specific requirements of the client, aiming to provide detailed data support and analysis. The report is prepared in accordance with the general principles of HSJ factory's quality inspection standards to ensure compliance with industry regulations and quality control requirements. The report covers various technical indicators and quality inspection data of relevant products, aiming to provide the client with a comprehensive and accurate reference basis for more accurate decision-making and quality management.

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2. Quality Assurance (QA) and Quality Data Analysis

2.1 Quality standards and data collection

The quality standards of HSJ's sheet metal processing products mainly include indicators such as dimensional tolerance, surface treatment quality, and mechanical properties etc.

- **Dimension tolerance:** In aluminum alloy sheet processing, the common dimensional tolerance requirement is ±0.1mm; for parts with higher requirements, the dimensional tolerance can be accurate to ±0.05mm.
- **Surface quality:** The surface roughness of sheet metal processing products is generally required to be Ra≤1.6μm. If there are scratches, oil stains or other defects on the surface, it will result in failure.
- **Mechanical properties:** tensile strength ≥350 MPa, hardness HRB ≥90.

Attached with actual data reference file ↓

1. Material inspection / IQC (HSJ Example)

Materials Data Form											
Model No.: EM80 Series											
				Total Mass (mg)		7.219		Date :			24-May-21
S/N	Part Name and Part Number	Basic Breakdowns	Raw Material	Treatment	Mass (mg)	Substance	CAS No.	Substance mass (ng)	Contents per part (%)	Contents per all (ppm)
1	PCB EM80 (51-MD080-1001)	Thermosetting resin	FR-4.0		4.4030	Epoxy resin	-	1.3370	30.3657	185218.5357
						Organic phosphorus compound ISO 1043-4 not declarable	-	0.0280	0.6359	3878.9222
						Aluminium hydroxide	21645-51-2	0.5950	13.5135	82427.0970
						Misc.	-	0.0990	2.2485	13714.7607
						GF-Fibre	-	2.3440	53.2364	324721.2025
		Nonferrous metals	Copper foil		2.1340	Copper	7440-50-8	2.1180	99.2502	293412.7589
						Arsenic	7440-38-2	0.0010	0.0469	138.5329
						Chromium	7440-47-3	0.0010	0.0469	138.5329
						Zinc (metal)	7440-66-6	0.0110	0.5155	1523.8623
						Nickel	7440-02-0	0.0020	0.0937	277.0659
						Tungsten	7440-33-7	0.0010	0.0469	138.5329
		Surface preparation	Nickel	Plating	0.3430	Nickel	7440-02-0	0.3172	92.4800	43943.5340
						Phosphorus	7723-14-0	0.0257	7.5000	3563.7598
						Lead	7439-92-1	0.0001	0.0200	9.5034
		Surface Finishing	Gold	Plating	0.0060	Gold	7440-57-5	0.0060	99.7500	829.1196
						Misc.	-	0.0000	0.2500	2.0780
		Surface preparation	Resist ink (Surface and Back side)		0.3260	EPA-EP-resin	-	0.1826	56.0000	25290.5728
						Copper-chlorophthalocyanine	12239-87-1	0.0007	0.2000	90.3235
						Crystalline silica	14808-60-7	0.0196	6.0000	2709.7042
						Silane, trichloromethyl-, hydrolysis products with amorphous fumed cryst.-free silica	121375-93-7	0.0130	4.0000	1806.4695
						Barium sulphate	7727-43-7	0.1043	32.0000	14451.7559
						Misc.	-	0.0059	1.8000	812.9113
		Surface preparation	Silk ink		0.0065	Epoxy cresol novolac resin	29690-82-2	0.0020	30.0000	270.1392
						Bisphenol A, epichlorohydrin polymer	25068-38-6	0.0013	20.0000	180.0928
						Crystalline silica	14808-60-7	0.0013	20.0000	180.0928

2. Material report / From material supplier

鞍钢股份有限公司
Angang Steel Company Limited

产品质量证明书
MILL TEST CERTIFICATE

中国辽宁省鞍山市铁西区鞍钢厂区 邮编 114003
Angang Production Area,Tiexi District,Anshan City,Liaoning Province,China
Tel 400-688-0898 Fax 0412-6728486

订货单位 Buyer	广州鞍钢国际贸易有限公司		中文产品名称 Product	普通碳素结构钢	订单号 Order No.	204300159-03	证明书编号 Certificate No.	4300304847
收货单位 Consignee	鞍钢股份有限公司代广州鞍钢国际贸易有限公司		英文产品名称 Product	STEEL SPCC	商检批次号 Ins.Lot.No.		发货日期 Date of Delivery	2024-11-22
客户名称 Customer	Shenzhen HSJ Fab Co., Ltd		交货状态 Supply Condition	退火+平整	购单号 Purchase No.		到站 Destination	金州
标准 Specification	Q/ASB 312-2018-St12-m-FB-PT.A		计重方式 Weight Mode	检斤 Actual Weight	总重量(Kg) Total Weight	25,970	车号 Wagon No.	1508943

熔炼号 Heat No. 批号 Batch No.	规格 SIZE (mm) 卷号 Coil No.	重量(Kg) Weight 毛重(Kg) Gross Weight	张数 Sheets	化学成分 Chemical Composition (%) C	Ni	Si	Cr	Mn	Cu	P	As	S	N	Nb	Als	Ti	RE	拉伸试验 Tensile Test 屈服 Y.S.	抗拉 T.S.	伸长率 EL	n 值 r 值	弯曲 Bend Test	杯突 ER (mm) 晶粒度 Grain	BH值 (MPa) 硬度 Hardness	带状组织 B.S. 脱碳层 D.L.(%)	游离渗碳体 F.C. 珠光体 Pearlite
				10^{-3}		10^{-2}		10^{-2}		10^{-3}		10^{-3}		10^{-3}		10^{-2}		MPa		%						
20BD1796 43003N1200	1*1250*C H0317073000100	8,530 8,600		1		0.8		19		7		3.9			20			170	309	44.5		合格				
20BD1796 43003N1200	1*1250*C H0317073000200	8,530 8,600		1		0.8		19		7		3.9			20			170	309	44.5		合格				
20BD1791 43003N1270	1*1250*C H0317142000200	8,910 8,980		1		0.9		20		8		7.2			20			169	307	41.5		合格				

备注 Remarks				总毛重(Kg) Total Gross Weight	26,180
注释 Notes	Y.S.=Yield Strength T.S.=Tensile Strength EL=Elongation				
本产品已按上述标准要求制造和检验，其结果符合要求，特此证明。贵方查询有关问题，请与我公司联系。 We hereby certify that material described herein has manufactured and tested with satisfactory results in accordance with the requirements of the above material specification. If you have any questions, please contact our company.	发货单位 Deliver Department	鞍钢股份有限公司冷轧厂 Rolled Sheet Plant of ANSTEEL		出口目的港 Export Destination	
	发货人 Deliverer	王忠仁	副厂长 Deputy Director	总件数 Total Pieces	3
	检查人 Inspector	丁晓娇			

3. Process inspection / IPQC (HSJ Example)

型号：B2615-01　　Date:16 October2024

名称：固定板　　检查器：FEPIK

零件号：51-V0080-1445

项目	1	2	3	4	5	判断
说明书	3.60±0.10 (3.50-3.70)	1.05+0.05100 (1.05-1.10	4.00±0.10 (3.90-4.10)	6.00±0.01 (5.90～6.10)	2.80±0.10 (2.70-2.90)	
1	3.60	1.06	4.00	5.96	2.80	通过
2	3.60	1.06	4.00	5.97	2.79	通过
3	3.60	1.08	3.90	5.99	2.80	通过
4	3.62	1.07	4.00	5.99	2.81	通过
5	3.60	1.07	4.01	5.99	2.80	通过
最高的	3.62	1.08	4.01	5.99	2.81	
最小	3.60	1.06	3.90	5.96	2.79	
大街	3.60	1.07	3.98	5.98	2.80	

备注：用卡尺测量

：所有尺寸单位为mm。

：No.3和5的测量尺寸采用深圳HSJ工厂的数据

4. Dimensional inspection / FQC (HSJ Example)

SHENZHEN HSJ FAB CO., LTD

Sample Measurement Report

Customer	-	PO NO.	PT2408010		
Part No.	BK2115-06	REV.	-2, 2024.7.12	QTY	50+5 Pcs
Description	-				
Material	Treated steel plate SPCC t1.0	FINISH	Baked Painting: DIC65 Light Green.		
AQL MIL-STD-105E LEVEL II 2.5					

CONCLUSION			
PASS	REJECT	PENDING	
PASS			
Checked by: Tammy	Reviewed by: Tomas	Checked by: Tammy	Date: 2024-10-08

APPEARANCE(Product photo)

NO.	Spec.	Tolerance upper	Tolerance lower	Sample (Unit:mm) Gauge	Cav 1	Cav 2	Cav 3	Cav 4	Cav 5	Result (OK/NG)
1	6.00 +0.10 -0.10	6.10	5.90	Caliper	6.00	6.00	6.00	6.00	6.01	OK
2	19.70 +0.10 -0.10	19.80	19.60	Caliper	19.75	19.73	19.75	19.75	19.73	OK
3	15.40 +0.10 -0.10	15.50	15.30	Caliper	15.50	15.50	15.48	15.49	15.50	OK
4	12.20 +0.10 -0.10	12.30	12.10	Caliper	12.23	12.30	12.26	12.30	12.25	OK
5	7.70 +0.10 -0.10	9.2 - (3/2)		Caliper	7.69	7.70	7.71	7.70	7.71	OK
6	3.00 +0.10 -0.10	3.10	2.90	Caliper	3.00	3.00	2.99	3.00	3.00	OK
7	3.00 +0.10 -0.10	3.10	2.90	Caliper	3.00	3.00	3.00	3.00	3.00	OK
8	2.00 +0.10 -0.10	2.10	1.90	Caliper	2.00	2.00	1.98	1.97	2.00	OK
9	4.00 +0.10 -0.10	4.10	3.90	Caliper	4.00	4.00	3.99	4.00	3.99	OK
10										
11										
12										
13										
14										

5. COC report of the product (HSJ Example)

SHENZHEN HSJ FAB CO., LTD

COC REPORT

(For metallic parts)

CUSTOMER - PO NO: P00999

Drawing No. DW0100028 QTY: 5 pcs

Description: Back Board with laser engraving

MATERIAL: AL 6061, T=2.5mm

Welding: NA

Fastener: NA

Screw Assembly: NA

Finishing Masking: MASK ALL HOLES AND CUTOUTS BEFORE POWDER COATING

Finish of Coating: Clear anodized, Sand blasting, Powder coating RAL 9007

Finish of Painting: POWDER COATING RAL 9007, SATIN FINISH

This is to certify that materials and parts supplied meet all requirements of the purchase order, Including material as specified, Use of approved processes where applicable, And dimension requirements as specified;

We, SHENZHEN HSJ FAB CO., LTD, are fully aware of reducing the environmental impact of products as mentioned above part numbers accordance with new EU directive (EU) 2015/863. The above mentioned part numbers can meet RoHS standard as below:

Maximum Allowable Concentration	Maximum Allowable Concentration
<1000 PPM (0.1% by weight)	Lead (Pb)
<1000 PPM (0.1% by weight)	Mercury (Hg)
<1000 PPM (0.1% by weight)	Cadmium (Cd)
<1000 PPM (0.1% by weight)	Hexavalent Chromium (Cr VI)
<1000 PPM (0.1% by weight)	Polybrominated Biphenyls (PBB)
<1000 PPM (0.1% by weight)	Polybrominated Diphenyl ether (PBDE)
<1000 PPM (0.1% by weight)	Bis(2-Ethylhexyl) phthalate (DEHP)
<1000 PPM (0.1% by weight)	Benzyl butyl phthalate (BBP)
<1000 PPM (0.1% by weight)	Dibutyl phthalate (DBP)
<1000 PPM (0.1% by weight)	Diisobutyl phthalate (DIBP)

Approved by : Tomas Date : Nov 20th, 2024

Manufacturer: SHENZHEN HSJ FAB CO., LTD

Address : Building 3, No.6 Ind Zone, Mashantou Community, Matian Street, Guangming District, Shenzhen Zip 518106, China

COC report of the product (HSJ Example)

SHENZHEN HSJ FAB CO., LTD

Coating Report

QC Report NO. QC20241120018 **DATE** Nov 20th, 2024

CUSTOMER - **PO NO.** P00999

DRAW NO DW0100028 **REV** 1

SPEC Back Board with laser engraving

MATERIAL AL 6061, T=2.5mm

FINISH Clear Anodized Sand blasting, Powder coating RAL 9007

TOTAL QUANTITY 5 pcs

Description of Test	Test Results	Quantity	Conclusions
Visual Inspection	Remove burrs and smooth.	5	Passed
Coating Inspection	The Anodizing layer thickness is 5-10 microns.	5	Passed
Powder coating inspectio	No defective areas, perfect surface.	5	Passed
Salt Spray Inspection	No defective areas, perfect surface.	5	Passed
Monthly Sample Panel Inspection		5	Passed on Nov 20,2024
Passed			**Meeting all Requierments**

Inspected By Tomas

Date: Nov 20th, 2024

This is to certify that materials and parts supplied meet all requirements of the purchase order, Including material as specified, Use of approved processes where applicable, And dimension requirements as specified.

6. Surface treatment report of the product (HSJ Example)

Reliability Test Report

Testing Part

CUSTOMER : -		MODEL : MN110526	
PART NAME : Case A, Case B, Case C & Battery Cover		PART NO : -	

Material Spray

Material Data	Supplier Name	Code	Mix Ratio	Viscocity	Color
Paint	BPL	BPP1-20373	100%	12 ± 1 Sec.	Pearl Glossy
Thinner	BPL	BPT-26085	100 ± 20%		
Hardener	BPL	BPH-85030	10%		

Visual Part

Case C

Battery Cover

Case A

Case B

Rev	Testing Date	Result	PREPARED BY	APPROVED BY
0	05-Oct-24	Passed	Candy	Luarua

Surface treatment report of the product (HSJ Example)

Reliability Test Report

Testing Part

CUSTOMER	: -	MODEL	: MN110526
PART NAME	: Case A, Case B, Case C & Battery Cover	PART NO	: -

1. Pencil Hardness Test

Used Test Pencil H " H2" Load 500gf x 45° angle x 5mm distance push

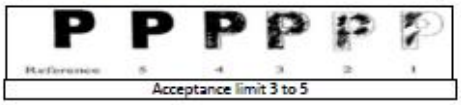
Draw 2 Line

Criteria: No scratches/peeled paint layer

Result : Passed (paint does not peel)

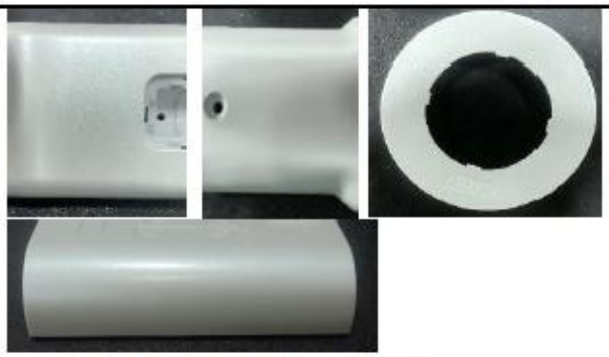
2. Alcohol / RCL Test

1. Wet the cloth with 75% alcohol
2. Use a 350gr load
3. Rub the area of the item 50 times / 25 cycles



Acceptance limit 3 to 5

Criteria: paint is not peeling (raw parts visible)



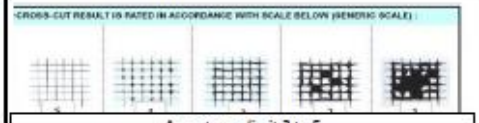
Result : Passed (paint does not peel)

3. Cross Cut & Tape Test


Cutter

3M Scotch #600

1. Make 1 mm cuts (10x10) reach the original surface of paint
2. Press a piece of tape on the test surface rub firmly
3. within 90 + 30 sec of application, remove the tape by seizing the free end and pilling it off rapidly (not jerked) back upon itdelf at as close to angel of 180 as possible



Acceptance limit 3 to 5

Criteria: Paint does not lift / peel

Result : Passed (paint does not peel)

Rev	Testing Date	Result	PREPARED BY	APPROVED BY
0	05-Oct-24	Passed	Candy	Luarua

2.2 Data-driven improvement measures

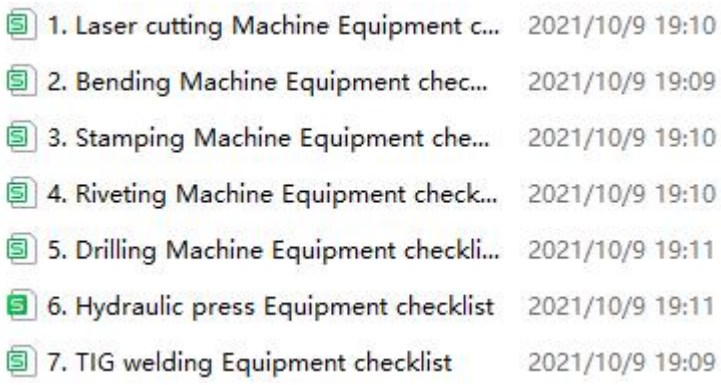
Through data analysis, the sheet metal processing plant found that the quality problems in the stamping process mainly came from insufficient equipment calibration and improper operation. In response to these problems, the QA department took the following improvement measures:

- **Equipment calibration:** Stamping equipment is regularly calibrated and inspected to ensure that accuracy meets standard requirements.
- **Operator training:** Strengthened operator skills training, focusing on how to accurately measure and control dimensional tolerances.
- **Data monitoring:** By establishing a digital quality control system, production data can be monitored in real time to detect anomalies in a timely manner and avoid quality fluctuations.

Attached with actual data reference file ↓

1. Equipment checklist (daily and regular)

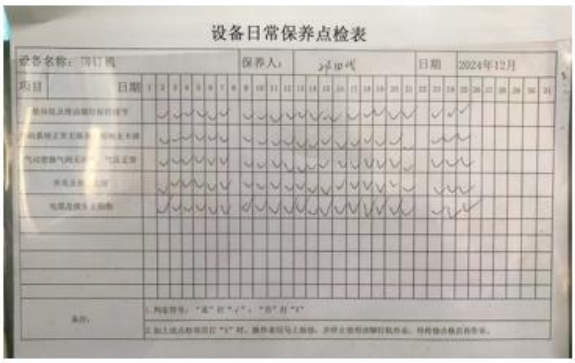
Including laser cutting, bending machine, riveting machine, TIG welding, riveting machine, etc.



Equipment checklist (daily) / (HSJ Example)

Laser cutting Machine Equipment checklist

Bending Machine Equipment checklist



Riveting Machine Equipment checklist

Drilling Machine Equipment checklist

According to the internal data of HSJ factory, the qualified rate of products in the past 6 months was 98.5325%.

Through further data analysis, it was found that the qualified rate of the stamping process was 98.68%, and the qualified rate of the **welding process** was 99.75%. Based on these data, the QA department can accurately locate the problem links and take targeted improvement measures.

We will have full confidence in facing complex metal processing parts and can control the processing accuracy and surface treatment perfection of the parts.

3. Purchasing quality management

3.1 Supplier Evaluation and Selection

HSJ factory purchased raw materials from three major suppliers in the past year.

- **Supplier WGM:** 98% qualified material rate, 97% on-time delivery rate.
- **Supplier Ante:** 94% qualified material rate, 85% on-time delivery rate.
- **Supplier BOCAI:** 99% qualified material rate, 95% on-time delivery rate.

Based on these data, the purchasing department decided to increase cooperation with **supplier BOCAI** and reduce cooperation with other suppliers.

This move effectively improved the quality consistency of raw materials and the timeliness of delivery, ensuring the smooth implementation of the production plan.

Qualified Supplier Directory ↓

Note: The data is output by KIS ERP, and some information needs to be kept confidential.

Shenzhen HSJ FAB CO., LTD

HSJ 昊盛嘉 HSJ metal fabrication

Qualified Supplier Directory

表格编号:FR-CG-03

Serial Number	Supplier Name	Contact	Phone	Main Supply	Start date
hsj0012	东莞市外观美	赵先生	178****2680	Steel raw material	2014
hsj0013	东莞敏汇五金科技有限公司	张小姐	135****8919	Powder Flat	2015
hsj0014	安特公司	王骥	186****9071	electroplate / Plating	2019
hsj0015	昊达科技有限公司	梁先生	151****4651	Wet Paint	2013
hsj0016	力达克创	曾小姐	135****7071	rivet	2017
hsj0017	42BS	李小姐	135****6083	42bs rivet	2019
hsj0018	九墙五金制品	胡小姐	135****3018	rivet	2018
hsj0019	文达五金制品	王小姐	137****3848	electroplate / Plating	2017
hsj0020	深圳恒进	李小姐	150****8851	Powder Texture	2017
hsj0021	薄材	曹先生	183****6106	Copper sus spte	2016
hsj0022	绝缘塑胶材料	林先生	198****6040	insulating material	2016

Note: The data is output by KIS ERP, some information needs to be kept confidential.

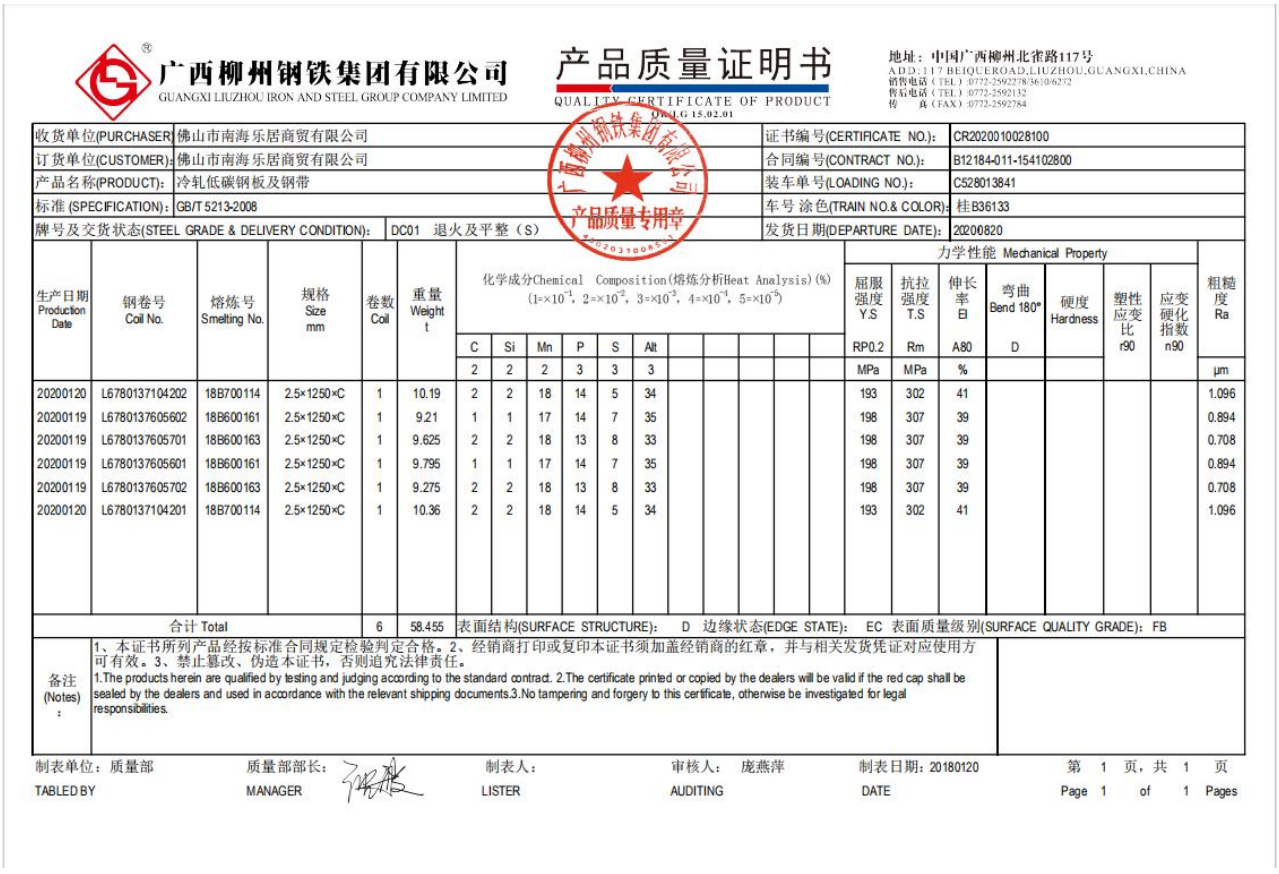
3.2 Raw material incoming inspection

Incoming inspection of raw materials is a key step in the procurement process. The incoming inspection data mainly includes the dimensional tolerance, chemical composition, physical properties, etc. of the raw materials.

- **Dimension error:** The qualified rate of raw material dimension error is 99%.
- **Chemical composition:** The qualified rate of aluminum alloy chemical composition is 100%.
- **Physical properties:** The qualified rate of hardness is 98%.

By analyzing these data, the purchasing department can identify the possible quality fluctuations of suppliers and take corresponding measures in time to ensure the smooth production of products.

MTC Mill test certificate - CRS



广西柳州钢铁集团有限公司
GUANGXI LIUZHOU IRON AND STEEL GROUP COMPANY LIMITED

产品质量证明书
QUALITY CERTIFICATE OF PRODUCT

地址：中国广西柳州北雀路117号
ADD:117 BEIQUEROAD,LIUZHOU,GUANGXI,CHINA
销售电话（TEL）:0772-2592278/3610/6272
售后电话（TEL）:0772-2592132
传　　真（FAX）:0772-2592784

收货单位(PURCHASER):	佛山市南海乐居商贸有限公司	证书编号(CERTIFICATE NO.):	CR2020010028100
订货单位(CUSTOMER):	佛山市南海乐居商贸有限公司	合同编号(CONTRACT NO.):	B12184-011-154102800
产品名称(PRODUCT):	冷轧低碳钢板及钢带	装车单号(LOADING NO.):	C528013841
标准(SPECIFICATION):	GB/T 5213-2008	车号 涂色(TRAIN NO.& COLOR):	桂B36133
牌号及交货状态(STEEL GRADE & DELIVERY CONDITION):	DC01 退火及平整（S）	发货日期(DEPARTURE DATE):	20200820

生产日期 Production Date	钢卷号 Coil No.	熔炼号 Smelting No.	规格 Size mm	卷数 Coil	重量 Weight t	化学成分Chemical Composition(熔炼分析Heat Analysis)(%)											力学性能 Mechanical Property							粗糙度 Ra
						C	Si	Mn	P	S	Alt							屈服强度 Y.S	抗拉强度 T.S	伸长率 El	弯曲 Bend 180°	硬度 Hardness	塑性应变比 r90	应变硬化指数 n90	
						2	2	2	3	3	3							RP0.2	Rm	A80	D				μm
20200120	L6780137104202	18B700114	2.5×1250×C	1	10.19	2	2	18	14	5	34							193	302	41					1.096
20200119	L6780137605602	18B600161	2.5×1250×C	1	9.21	1	1	17	14	7	35							198	307	39					0.894
20200119	L6780137605701	18B600163	2.5×1250×C	1	9.625	2	2	18	13	8	33							198	307	39					0.708
20200119	L6780137605601	18B600161	2.5×1250×C	1	9.795	1	1	17	14	7	35							198	307	39					0.894
20200119	L6780137605702	18B600163	2.5×1250×C	1	9.275	2	2	18	13	8	33							198	307	39					0.708
20200120	L6780137104201	18B700114	2.5×1250×C	1	10.36	2	2	18	14	5	34							193	302	41					1.096
合计 Total				6	58.455	表面结构(SURFACE STRUCTURE): D 边缘状态(EDGE STATE): EC 表面质量级别(SURFACE QUALITY GRADE): FB																			

备注(Notes):
1、本证书所列产品经按标准合同规定检验判定合格。2、经销商打印或复印本证书须加盖经销商的红章，并与相关发货凭证对应使用方可有效。3、禁止篡改、伪造本证书，否则追究法律责任。
1.The products herein are qualified by testing and judging according to the standard contract. 2.The certificate printed or copied by the dealers will be valid if the red cap shall be sealed by the dealers and used in accordance with the relevant shipping documents.3.No tampering and forgery to this certificate, otherwise be investigated for legal responsibilities.

制表单位：质量部 TABLED BY　质量部部长： MANAGER　制表人： LISTER　审核人： 庞燕萍 AUDITING　制表日期：20180120 DATE　第 1 页，共 1 页 Page 1 of 1 Pages

MTC Mill test certificate - AL5052

订货单位 Customer											编 号: Serial No:	MT24073940
产品名称 Product	批 号 Lot No		合金状态 Alloy And Temper			规格（mm） Dimension						
铝板/铝带	GFD2407N50016		5052 H32			4.0000*1220.00*2440						
技术标准 Technique Standard			GB/T 3880-2012			化学成分标准 Composition Standard			GB/T 3190-2020			
化学成分 % Chemical Composition												
元素 Element	Si	Fe	Cu	Mn	Mg	Cr	Zn	Na	Ti	Al	其它 单个	其它 合计
标准值 Standard Value	≤0.25	≤0.4	≤0.1	≤0.1	2.2-2.8	0.15-0.35	≤0.1	---	---	余量		
实测值 Measured Value	0.1292	0.3675	0.0269	0.0675	2.4808	0.183	0.0241	0.0004	0.0157	96.6948	-	-
力学性能 Mechanical Property												
取样方法 Sampling Method	抗拉强度（MPa） Tensile Strength				屈服强度（MPa） Yield Strength				延伸率（%） Elongation			
纵向	标准值 Standard Value		实测值 Measured Value		标准值 Standard Value		实测值 Measured Value		标准值 Standard Value		实测值 Measured Value	
	210-260		223		≥130		185		≥10		12	
杯凸 Cup Bulge	标准值 Standard Value		——		制耳率（%） Earing		标准值 Standard Value		——			
	实测值 Measured Value		——				实测值 Measured Value		——			
90° 折弯 90° bend	合格				其他 Others		合格					
表面质量 Surface Control	合格				几何尺寸 Dimension Control		合格					
综合判定 Overall Conlusion	合格											

填表人： 杨刚刚 审批人： 杨峰 日期： 2024年07月20日

Inspector: Approver: Date:

河南明泰铝业股份有限公司

地址：河南省巩义市回郭镇开发区北部 邮编：451

电话：86-371-64234995 64235833

河南明泰铝业股份有限公司 质量专用章

MTC Mill test certificate -Stainless steel

POSCO PZSS **Mill Test Certificate/检查证明书**

Certificate No./证明书号码:200122-ZRNC-038-001
Date of Issue/发行日期:Mar., 14, 2024
Surface Finish/表面状态:NO.2B

Order No./合同号码:SRK912717
PO No./订单号码:
Supplier/订户
Commodity/品名:STS CR Coil
Customer/客户:
Spec & Type/规格:JIS-G4305-SUS304(ZP304 SQ)

Size/尺寸	Product No. 产品号码	Quantity 数量	Weight 重量 (kg)	Heat No. 炉号	POSITION	Tensile/拉伸试验 YS 0.2% (MPa)	TS (MPa)	EL (%)	Hardness /硬度 HV		DIVISION	Chemical Composition/化学成分(%) C -4	Si -3	Mn -3	P -4	S -4	Cr -2	Ni -2
1x1219xC	QWA0802	1	24,697	S688282	T	271	669	61	160		L	593	518	1053	369	40	1812	803
					B	293	674	59	166									
*** Sub Total (080) ***		1	24,697															
*** Grade Total ***		1	24,697															
*** Grand Total ***		1	24,697															

--- Last Item ---

* Position - T : Top, M : Middle, B : Bottom
* Tensile Test. Direction : Transversal, Gauge Length : 50mm(Rectangular),
* Division - L:Ladle Analysis * Tr(Trace)

We hereby certify that the material herein has been made in accordance with the order and specification.

* This Mill Test Certificate cannot be copied for any purpose.
* After-sale Tel:(0512)58569641 or 58569573

POSCO (Zhangjiagang) Stainless Steel Co.,Ltd. No.1 Jinfeng Riverside Road, Zhangjiagang City, Jiangsu Province,PRC. P.C.:215625

Chief of material testing section/鉴证人 Ding.Bing

MTC Mill test certificate -Galvanized sheet

鞍钢股份有限公司 Angang Steel Company Limited

产品质量证明书 MILL TEST CERTIFICATE

中国辽宁省鞍山市铁西区鞍钢厂区 邮编 114003
Angang Production Area,Tiexi District,Anshan City,Liaoning Province,China
Tel 400-688-0898 Fax 0412-6728486

订货单位 Buyer	广州鞍钢国际贸易有限公司	中文产品名称 Product	普通碳素结构钢	订单号 Order No.	204300159-05	证明书编号 Certificate No.	4300304637
收货单位 Consignee	鞍钢股份有限公司代广州鞍钢国际贸易有限公司	英文产品名称 Product		商检批次号 Ins.Lot.No.		发货日期 Date of Delivery	2024-03-23
客户名称 Customer		交货状态 Supply Condition	退火+平整	购单号 Purchase No.		到站 Destination	金州
标准 Specification	Q/ASB 312-2018—St12—m—FB—PT.A	计重方式 Weight Mode	检斤 Actual Weight	总重量(Kg) Total Weight	36,400	车号 Wagon No.	1697538

熔炼号 Heat No. 批号 Batch No.	规格 SIZE (mm) 卷号 Coil No.	重量(Kg) Weight 毛重(Kg) Gross Weight	张数 Sheets	化学成分 Chemical Composition (%) C	Ni	Si	Cr	Mn	Cu	P	As	S	N	Nb	Als	Ti	RE	拉伸试验 Tensile Test 屈服 Y.S.	抗拉 T.S.	伸长率 EL	n 值 r 值	弯曲 Bend Test	杯突 ER (mm) 晶粒度 Grain	BH值 (MPa) 硬度 Hardness	带状组织 B.S. 脱碳层 D.L.(%)	游离渗碳体 F.C. 珠光体 Pearlite
				10^{-3}		10^{-2}		10^{-2}		10^{-3}		10^{-3}		10^{-3}		10^{-2}		MPa		%						
20AD1854 43003N0380	1.2*1250*C H0317023000300	9,120 9,210		2		0.9		20		11		7.5		20				163	291	42.5		合格				
20BD1791 43003N0390	1.2*1250*C H0317024000300	9,080 9,170		1		0.9		20		8		7.2		20				173	294	45		合格				
20BD1719 43003N0490	1.2*1250*C H0317177000300	9,070 9,160		2		0.8		20		9		4.5		20				172	303	41		合格				
20AD1854 43003N0650	1.2*1250*C H0319056000300	9,130 9,220		2		0.9		20		11		7.5		20				163	289	45		合格				

备注 Remarks		总毛重(Kg) Total Gross Weight	36,760
注释 Notes	Y.S.=Yield Strength T.S.=Tensile Strength EL=Elongation		

本产品已按上述标准要求制造和检验，其结果符合要求，特此证明。贵方查询有关问题，请与我公司联系。
We hereby certify that material described herein has manufactured and tested with satisfactory results in accordance with the requirements of the above material specification. If you have any questions, please contact our company.

发货单位 Deliver Department	鞍钢股份有限公司冷轧厂 Rolled Sheet Plant of ANSTEEL			出口目的港 Export Destination	
发货人 Deliverer	李启祥	副厂长 Deputy Director		总件数 Total Pieces	4
检查人 Inspector	李鹏				

产品质量专用章

4. Production Design

4.1 Design Verification and Manufacturability Analysis (DFM)

In the sheet metal processing industry, the rationality of the design directly affects the stability of the production process. Designers use **manufacturability analysis (DFM)** to verify whether the design meets the production process requirements.

During the design process of an aluminum alloy shell, our engineer found through DFM that the bending radius of the original design was too small and could not be processed on the existing equipment, resulting in high dimensional deviation and rework rate during the production process.

After improvement, the End Customer adjusted the bending radius to a range suitable for processing with existing equipment, and the proportion of defective products in the production process decreased by about 2%. This data-based design optimization effectively improves production efficiency and reduces material waste and rework costs.

Attached is The DFM for the metal items for the client.

---

5. Production Planning

5.1 Production Scheduling and Resource Allocation

Our PMC starts to arrange production after receiving the payment notice from the finance department, including purchasing raw materials, parts processing, inspection, packaging, transportation and other links.

Attached is the previous Deadline for reference. ↓

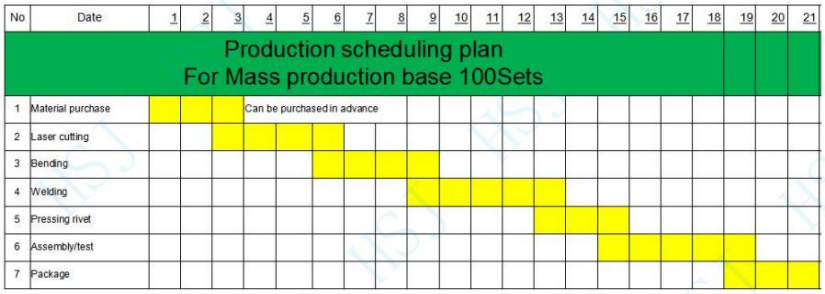
Production plan for metal processing project

Shenzhen HSJ FAB Co., Ltd.

7. Please specify Fabrication time periods for each order in the table below
8. Please specify Delivery time periods for each order in the table below.

HSJ:
Sample / 3-4 weeks after payment received.
2nd Order = x100 Units / 20 days after payment received.
We can continuously optimize the process and shorten the processing time after producing samples.

Air freight takes 7-10 days, and sea freight takes about 35 days, door to door.



5.2 Data-driven production adjustments

By using the production data monitoring system, the HSJ factory can monitor the working hours, equipment utilization rate and production progress of each production link in real time.

When the delay rate of a certain process reaches the warning value, the system automatically reminds the management to make adjustments.

Through this measure, the factory has greatly improved the flexibility and adaptability of production, thereby improving overall production efficiency.

6. Prototyping

6.1 Prototyping and Customer Feedback

The HSJ factory produced more than 160 prototype projects in the past year. After customer feedback and verification, the pass rate was 93%. The samples failed to pass customer acceptance due to design changes and the characteristics of raw materials (magnesium alloy, tungsten alloy).

We will provide the dimensions and FAI reports of the parts after production is completed and issue paper documents such as COC reports as required. We will also provide timely follow-up feedback and record other possible issues after customers receive the samples.

FAI / First Article Report (HSJ Example)

SHENZHEN HSJ FAB CO.. LTD

First Article Report

Part Name: FIXING PLATE

Part No: 51-V0080-1445

Date : 16 October, 2024

Dimension	Specification	Actual	Judgement
1	3.60±0.10(3.50-3.70)mm	3.60~3.62 mm	PASS
2	1.05+0.05/-0.0(1.05-1.10)mm	1.06~1.08 mm	PASS
3	4.00±0.10(3.90-4.10)mm	3.90~4.01 mm	PASS
4	6.00±0.10(5.90-6.10)mm	5.96~5.99 mm	PASS
5	2.80±0.10(2.70-2.90)mm	2.79~2.81 mm	PASS

Note: Refer to attached data for detail.

Check Item	Appearance	Judgement
1	Rusty Mark, Burr, Oil on surface, Sharp edge on externalcircumference, Warping, Deformation, Foreign Particle,Missing Plating/ Insufficient Plating or Poor Plating.	PASS

Remarks: 1)This is the 1st submission for first Article Evaluation.

FINAL Judgement: PASSED

检查人 审核人： 批准人：

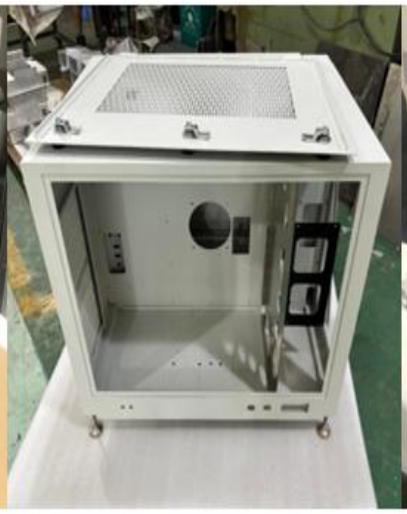


7. Production

7.1 Production process quality control

When engineers send design documents to factory employees, the inspection process is triggered.In HSJ factory, each processing step must be inspected and patrolled to prevent defective products from flowing into other steps.

Attached is the previous welding product for reference. ↓



7.2 Continuous Improvement of Quality Control

Based on data analysis, the production team also implemented the "lean production" management concept to continuously improve the production process, reduce waste, and improve production efficiency. Every link in the production process has been optimized, ultimately achieving a win-win situation in production efficiency and product quality.

If a customer complains, HSJ requires quality personnel to record and feedback to engineers, technicians, sales, etc. in a timely manner. At the same time, at this stage, the quality department must issue a complaint handling report and opinions to sales and customers.

It must include the reasons for defective products, improvement plans, and future qualified rates, which will greatly improve the production process and continuously optimize the team and production technology.

Attached is the previous S.O.D Complaint for reference. ↓

S.O.D / 8D Complaint (HSJ Example)

Shenzhen HSJ FAB Co., Ltd.

To: - **Date:** Oct. 29th, 2024

From: HSJ Team **Complaint No**. 00016

S.O.D Complaint

Order No: PO# PT2408011

Drawing No: HA6_16_PANCHING **Qty:** 50+5 Pcs

Exception Description:

1. The HA6_16_PANCHING - Poor plating, hole small, missing hole, dented.
2. The HA6_16_PANCHING - Customer special accept, but for next delivery need to improve and select & take out the reject part from shipment.

Picture:

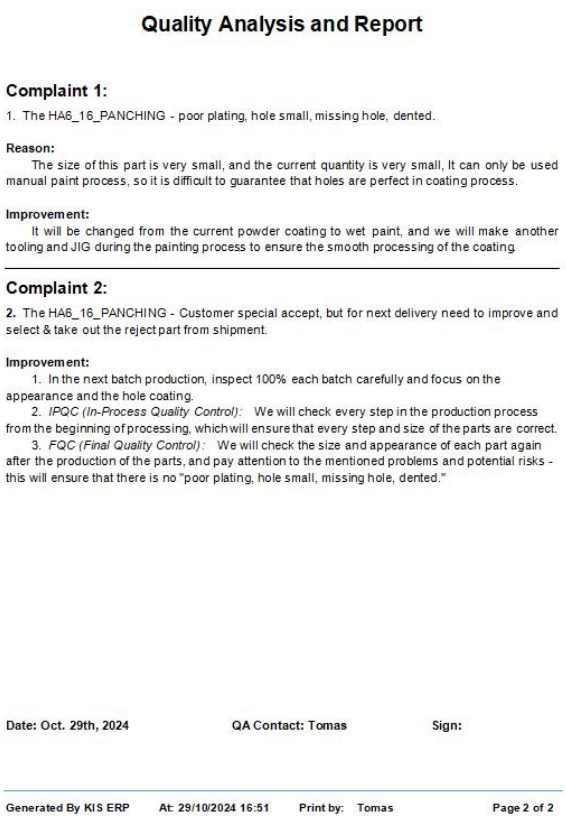
1.Poor Plating

2.Hole Small

3.Missing Hole

4.Dented

Generated By KIS ERP At: 29/10/2024 16:51 Print by: Tomas Page 1 of 2



Quality Analysis and Report

Complaint 1:

1. The HA6_16_PANCHING - poor plating, hole small, missing hole, dented.

Reason:

The size of this part is very small, and the current quantity is very small, It can only be used manual paint process, so it is difficult to guarantee that holes are perfect in coating process.

Improvement:

It will be changed from the current powder coating to wet paint, and we will make another tooling and JIG during the painting process to ensure the smooth processing of the coating.

Complaint 2:

2. The HA6_16_PANCHING - Customer special accept, but for next delivery need to improve and select & take out the reject part from shipment.

Improvement:

1. In the next batch production, inspect 100% each batch carefully and focus on the appearance and the hole coating.
2. *IPQC (In-Process Quality Control):* We will check every step in the production process from the beginning of processing, which will ensure that every step and size of the parts are correct.
3. *FQC (Final Quality Control):* We will check the size and appearance of each part again after the production of the parts, and pay attention to the mentioned problems and potential risks - this will ensure that there is no "poor plating, hole small, missing hole, dented."

Date: Oct. 29th, 2024 **QA Contact: Tomas** **Sign:**

Generated By KIS ERP At: 29/10/2024 16:51 Print by: Tomas Page 2 of 2

8. Logistics

8.1 Packaging and transportation quality control

The parts will be wrapped with anti-collision cotton and packed in cartons, or customized wooden boxes (need to be confirmed after production samples), and then anti-collision strips and pallets will be added to the outside of the box.

Attached is the previous Packaging Plan for reference. ↓

8.2 Import Documentation and Customs Clearance

We can handle import clearance into other countries and provide documentation, we have experience due to other Australian clients frequently sourcing metal parts.

- COO / Official Country of Origin
- Telegraphic Release Guarantee
- CI/PL / Export Declaration
- Packaging (Material) Declaration

Certificate of Origin.pdf Packing Dec New Annual Feb 2 HA2 Bill Of Lading

ANNUAL PACKING DECLARATION

ter's name: Shenzhen HSJ Fab Co., Ltd

CEPTABLE PACKAGING MATERIAL STATEMENT

aging material such as straw, peat, hay, chaff, used fruit & vegetable cartons are not permitted)

Will unacceptable packaging materials be used as packaging or dunnage in the consignments covered by this document?

YES ☐ NO ☑

ER/BAMBOO PACKAGING/DUNNAGE STATEMENT

er/bamboo packaging/dunnage includes: crates, cases, pallets, skids, and any other timber or bamboo as a shipping aid)

Will timber/bamboo packaging/dunnage be used in consignments covered by this document?

YES Timber ☐ YES Bamboo ☐ NO ☑

ATMENT CERTIFICATION (ONLY IF TIMBER/BAMBOO PACKAGING/DUNNAGE IS DECLARED IN QUESTION 2)

Q3 All timber/bamboo packaging/dunnage used in the consignments will be (Please Indicate below)

Treated and marked in compliance with ISPM 15 (Note: ISPM 15 is only applicable to timber packaging) ☐

Or

Treated in compliance with Department of Agriculture and Water Resources treatment requirements (With accompanying treatment certificate) ☐

Or

Not treated ☐

CONTAINER CLEANLINESS STATEMENT (for FCL/X consignments only - statement to be removed from document when not relevant)

The container(s) covered by this document will be cleaned and will be free from material of animal and/or plant origin and soil.

Signed: ..... Printed name: Andy Van (Company representative)

Date of issue: Jun 14th, 2023 (DD/MM/YYYY)

3. Importer's name, address and country (if known): SYDNEY AUSTRALIA

For official use only: ISSUED RETROSPECTIVELY

4. Means of transport and route (if known): Departure date: JUN. 18, 2023; Vessel/Flight/Train/Vehicle No: JOGELA / 1605; Port of loading: SHENZHEN, CHINA; Port of discharge: SYDNEY, AUSTRALIA

5. Remarks:

6. Item number (max.20)	7. Marks and numbers on packages (optional)	8. Number and kind of packages; description of goods	9. HS code (6-digit code)	10. Origin criterion	11. Gross or net weight or other quantity (e.g. Quantity Unit, litres, m³,)	12. Invoice number and date
1	VELNAR V72201 BY SEA	METAL BRACKET TOTAL ONE (1) PALLET ONLY *** *** *** *** ***	7326.90	"W"	240825 G.W.	[redacted] JUN. 13, 2023

13. Declaration by the exporter or producer: The undersigned hereby declares that the above-stated information is correct and that the goods exported to AUSTRALIA (Importing Party) comply with the origin requirements specified in the Origin Table Free Trade Agreement

Shenzhen, China, JUN. 21, 2023

14. Certification: On the basis of the control carried out, it is hereby certified that the information herein is correct and that the described goods comply with the origin requirements specified in the Origin Table Free Trade Agreement

Shenzhen, China, JUN. 21, 2023

Place, date, signature and stamp of the Authorised Body

Tel: 0086-755-84386349 Fax: 0086-755-84386837

Address: Shennan Road 2006, Futian District, Shenzhen City, China

This is a simple audit version, extracted from the HSJ quality management system standard, which explains how to improve the overall quality level of sheet metal processing enterprises through precise quality control, continuous improvement and data analysis.

- QA
- Purchasing
- Production design
- Planning
- Prototyping
- Production
- Logistics

For more quality management systems, please contact our sales and tell us what you need to know, we will extract and display it for you.

Thank you.