



# QUALITY CONTROL PROCEDURES

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QCP - 01  
**QUALITY PLAN**  
FOR PRE-ENGINEERED STEEL BUILDING & COMPONENTS

<b>Prepared by:</b> QA Manager	<b>Approved By:</b> G. M.- Operations
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No	Description	Characteristic	Type of check	Extent of check	Specifications & Acceptance Standards	Inspection		Format of records	Remarks
						By Kirby SEA	By Client/ 3 <sup>rd</sup> Party		
<b>1.0 RAW MATERIAL</b>									
1.1	Steel Plates	a. Chemical & physical Properties b. Mechanical Testing c. Dimension d. Condition of Material	a. Mill T.C verification b. Lab Test c. Measurement (Thickness, Length & Width) d. Visual Inspection	a. 100% b. 1 out of 10 Heats c. Min. 1 piece in a lot. d. Min. 1 piece in a lot	a. ASTM A572 Gr50 (or Equivalent) b. ASTM A572 Gr50 (or Equivalent) c. ASTM A6 d. Should not be rusted and pitted	R W I I	R R R R	MILL TC LAB report K-602 K-602	
1.2	Hot Rolled Sections (I Beam, Channel, Angle)	a. Chemical & physical Properties b. Mechanical Testing c. Dimension d. Condition of Material	a. Mill T.C.verification b. Lab Test c. Measurement As per Purchase Order d. Visual Inspection	a. 100% b. 1 piece out of every lot. c. Min. 1 piece in a lot. d. Min. 1 piece in a lot	a. ASTM A572 Gr50 (or Equivalent) b. ASTM A572 Gr50 (or Equivalent) c. ASTM A6 d. Should not be rusted and pitted	R W I I	R R R R	MILL TC LAB report K-602 K-602	
1.3	Round Bars (Anchor Bolt, Sag Rod, Brace Rod)	a. Chemical & physical Properties b. Mechanical Testing (only for Anchor Bolt) c. Dimension d. Condition of Material	a. Mill T.C.verification b. Lab Test c. Measurement As per Purchase Order d. Visual Inspection	a. 100% b. 1 piece out of every lot. c. Min. 1 piece in a lot. d. Min. 1 piece in a lot	a. JIS G3101 SS400 (or Equivalent) b. JIS G3101 SS400 (or Equivalent) c. Kirby Technical Standards d. Should not be rusted and pitted	R W I I	R R R R	MILL TC LAB report K-602 K-602	



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						By Kirby SEA	By Client/ 3 <sup>rd</sup> Party		
1.4	Pre-painted / Galvalume sheeting coils (for Roof, Wall panels and Flashings...)	a. Chemical & physical properties b. Mechanical Testing c. Dimension d. Condition of Material	a. Mill T.C verification b. Lab Test c. Measurement (Thickness & Width) d. Visual Inspection	a. 100% b. 1 piece out of every lot. c. Min. 1 coil in a lot. d. Min. 1 coil in a lot	a. ASTM A792M Gr340 (or Equivalent) b. ASTM A792M Gr340 (or Equivalent) c. ASTM A924M d. Should be free from black spot , scratch & rust	R W I I	R R R R	MILL TC LAB report K-602 K-602	
1.5	Pre-Galvanized sheeting coils (for Purlin,Girt, Eave Strut.....)	a. Chemical & physical properties b. Mechanical Testing c. Dimension d. Condition of Material	a. Mill T.C verification b. Lab Test c. Measurement (Thickness & Width) d. Visual Inspection	a. 100% b. 1 piece out of every lot. c. Min. 1 coil in a lot. d. Min. 1 coil in a lot	a. ASTM A653M Gr340 (or Equivalent) b. ASTM A653M Gr340 (or Equivalent) c. ASTM A924M d. Should be free from black spot , scratch & rust	R W I I	R R R R	MILL TC LAB report K-602 K-602	
1.6	Square hollow sections	a. Chemical & physical properties b. Mechanical Testing c. Dimension d. Condition of Material	a. Mill T.C. Verification b. Lab Test c. Measurement d. Visual Inspection	a. 100% b. 1 piece out of every lot. c. Min. 1 piece in a lot. d. Min. 1 piece in a lot.	a. ASTM A500 Gr50 (or Equivalent) b. ASTM A500 Gr50 (or Equivalent) c. ASTM A500 Gr50 (or Equivalent) d. Should not be rusted and pitted	R W I I	R R R R	MILL TC LAB report K-602 K-602	

### 2.0 BOUGHT-OUT ITEMS

2.1	Insulations	a. Density & Dimension b. Condition of Material	a. T.C. Verification b. Visual Inspection	a. Min.1 piece in a lot b. Min.1 piece in a lot	a. BOM b. Should not be damaged	I I	R R	MILL TC K-602	
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2.2	HS Bolts/ Nuts/ Washers	a. Chemical & physical properties b. Mechanical Testing c. Dimension d. Condition of Material	a. Mill T.C.verification b. Lab Test c. Measurement d. Visual Inspection	a. 100% b. 1 sets in a lot & max 5 sets c. Min. 1 set in a lot d. Min. 1 set in a lot	a. ASTM A325M/ A563M/ F436M b. ASTM F606M/ A370M c. ANSI B18.2.3.7M/ B12.4.6M/ ASTM F436M Should not be rusted and pitted	R W I I	R R R R	MILL TC LAB report K-602 K-602	
2.3	MS Bolts/ Nuts/ Washers	a. Chemical & physical properties b. Mechanical Testing c. Dimension d. Condition of Material	a. Mill T.C.verification b. Lab Test c. Measurement d. Visual Inspection	a. 100% b. 1 sets in a lot & max 5 sets c. Min. 1 set in a lot d. Min. 1 set in a lot	a. ASTM A307M/ A563M/F436M b. ASTM F606M/ A370M c. ANSI B18.2.3.5M/ B12.4.1M/ B18.22 Should not be rusted and pitted	R W I I	R R R R	MILL TC LAB report K-602 K-602	
2.4	Roll-up/ Sliding Doors	a. Dimension b. Condition of Material	a. Measurement b. Visual Inspection	a. 100% b. Min.1 piece in a lot	a. Drawing, BOM b. Should not be rusted and damaged	I I	R R	K-602 K-602	
2.5	Windows	a. Dimension b. Condition of Material	a. Measurement b. Visual Inspection	a. 100% b. Min. 1 piece in a lot	a. Drawing b. Should not be rusted and damaged	I I	R R	K-602 K-602	
2.6	Louvers	a. Dimension b. Condition of Material	a. Measurement b. Visual Inspection	a. 100% b. Min.1 piece in a lot	a. Drawing, BOM b. Should not be rusted and damaged	I I	R R	K-602 K-602	
2.7	Ridge Ventilator Parts	Dimension	Measurement	100%	Drawing	I	R	K-602	



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2.8	Paint	Chemical & physical prop./ Specifications	Mill T.C./ Data Sheet verification	100%	Job Spec.	R	R	K-602 Test Cert.	
2.9	Welding Consumables	Chemical composition/ Mechanical properties	Test Certification verification	100%	AWS A5.1/5.17/5.20 Supplier's Spec.	R	R	K-602 Test Cert.	
<b>3.0 IN-PROCESS</b>									
3.1	Welding Qualification	a. WPS b. PQR c. WPO	a. Verification b. Verification c. Verification	a. 100% b. 100% c. 100%	a. AWS D1.1 b. AWS D1.1 c. AWS D1.1	V V V	R R R	WPS PQR Welder List/ Certificates	
3.2	Fabrication Process for Built up beams								
3.2.1	Cutting/ Shearing/ Drilling	Dimension	Measurement	Patrol Inspection	Drawing/MBMA	I	---	---	
3.2.2	Flange to Flange Fit-up & Welding	Dimension	Measurement	Patrol Inspection	AWS D1.1	I	---	---	
3.2.3	Web to Web Fit-up and welding	Dimension	Measurement	Patrol Inspection	AWS D1.1	I	---	---	
3.2.4	a. Flange to Web fit up b. Flange to Web Welding	a. Dimension b. Welding	a. Measurement b. Visual inspection	a. Patrol Inspection b. Patrol Inspection	a. Drawing/MBMA b. AWS D1.1	I I	--- ---	--- ---	
3.2.5	Fit up of Base/ Splice Plates and parts	Dimension	Measurement	100%	Drawing/MBMA	I	R	K-606	
3.2.6	Full Welding	Free from weld defects	Visual inspection	100%	AWS D1.1	I	R	K-607	



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3.2.7	Non Destructive Examination on welds	a. Fillet Welds b. Butt Welds (Thicknesss ≥ 8mm)	a. MPT b. UT	a. 2% Min. b. 5% Min.	a. AWS D1.1 b. AWS D1.1	I I	R R	K-612 K-616	
3.2.8	Final Inspection	Dimension	Measurement	100%	Drawing/MBMA	I	R	K-608	
3.2.9	Surface Preparation and Painting	a. Surface Cleaning b. Dry-Film Thickness c. Quality of Coating	a. Visual Inspection b. Measurement c. Visual Inspection	10% Min. 10% Min. 10% Min.	SSPC/ Job Spec. SSPC/ Job Spec. SSPC/ Job Spec.	I I I	R R R	K-610 K-610 K-610	
3.3	Cold Forming process for Purlin C, Z & Angle L	Dimensions	Measurement	Patrol Inspection	Drawing	I	R	K-605A	
3.4	Sheeting Forming Process	a. Dimensional b. Free from scratch, dent etc.	Measuremen Visual Inspection	Patrol Inspection	Drawing	I	R	K-609 K-605B	
3.5	Shipping Inspection	Free from damage, distortion, un-painted areas, visual defects.	Visual Inspection	Patrol Inspection	As per Packing List	I	---	---	

- NOTES :**
- Mechanical test shall be carried out on one sample heat, out of 10 heats.
  - Chemical composition only will be verified on Mill Test Certificate.

- LEGEND :**
- |     |                             |     |   |
|-----|-----------------------------|-----|---|
| I   | : Inspection                | QCM | : Quality Control Manual                              |
| R   | : Review                    | WPQ | : Welder / Welding Operator Performance Qualification |
| W   | : Witness                   | WPS | : Welding Procedure Specification                     |
| V   | : Verification              | PQR | : Procedure Qualification Record                      |
| MPT | : Magnetic Particle Testing | LOT | : Qty send by Supplier against 01 Mill TC.            |
| UT  | : Ultrasonic Testing        |     |   |

**APPROVED BY : QA MANAGER**  
**NAME : NGO THOI THUAN**

**APPROVED BY CUSTOMER**  
**NAME OF AUTHORISED PERSON**

**SIGNATURE**

**SIGNATURE**