

## INSPECTION AND TEST PLAN



Manufacturer: Nanjing Grand Steel Piling Co., Ltd.  
 Construction Process: DSAW spiral steel piles

Client: \_\_\_\_\_

ITP No.: ITP-C.L.P-01

Project No.: CLB/M/SM/2500  
 Rev: 1

Verification Activity	
H - Hold Point	– work shall not proceed past the Hold Point until released by the organisation imposing the Hold Point.
W - Witness Point	– an inspection point that may be witnessd by the organisation imposing the Witness Point.
I - Inspection	– formal inspection activity to be undertaken and recorded.
R - Review	– review of text reports/records or other evidence of compliance.
<u>Responsible Inspectorate (RI) (may be modified to meet site specific requirements)</u>	
PM – Project Manager	
CM – Construction Manager	
SUP – Supervisor	
QN – Quality Nominee	
PQMR – Project Quality Management Representative	
PSMR – Project Safety Management Representative	
PEMR – Project Environment Management Representative	

Development:

  
  

Implementation:

Rev	Date	Details	App'd (MIL)	App'd (Client)
0		For comments		
1	4th Sep 2010	For approval		



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Construction Process:		DSAW spiral steel piles to Cape			ITP No.:		ITP-C.L.P-01			Rev 1	Client Specification
Item	Basic Job Step	RI	Acceptance Criteria	Applicable Standard	Inspection Test		Verification Activity by			Verifying Records	
					Method	Frequency	SUP	MIL	Client		
1.0	Steel coil inspection	QN	Complies with purchase order requirements C ≤ 0.20% Si ≤ 0.55% Mn ≤ 1.70% P ≤ 0.040% S ≤ 0.030% Yield Strength (YS) ≥ 350MPa Lamellation test passed Elongation 20% min Tensile strength (TS) ≥ 450MPa	AS 3678  AS1710 Level 2	Test	Per delivery	H	H	R	Material Test Certificates	CLB-SPE-C-024 SKM-STD-C-010
1.1	Check steel coil dimensions Thickness Width	QN	± 1mm -0mm+35mm	Manufacture Procedure Specification (MPS)	Measure	On-going	I	W	R	Dimension Record	
2.0	Rolling process	QN	Nil defects	MPS	Visual	On-going	I	W	I	Inspection Recors	
2.1	Uncoiling	QN		MPS	Visual	On-going	I	W	I	Inspection Recors	
2.2	Check levelling	QN	Smooth and flat surface	MPS	Visual	On-going	I	W	I	Inspection Recors	
2.3	Check edge of side trimming	QN	All to have X-shaped groove	MPS	Inspect	Each weld	I	W	I	Inspection Recors	
2.4	Check forming	QN	Dia,Circumference,Visual	MPS	Measure	Every pile	I	W		Inspection Recors	
2.5	Coil to coil butt weld	QN	WPS	AS1554.1 AWS D1.1 2008	Inspect		I	W	W	WPS and PQR	CLB-SPE-C-024 SKM-STD-C-010
2.6	Spiral seam weld	QN	WPS	AS1554.1 AWS D1.1 2008	Inspect		I	W	W	WPS and PQR	CLB-SPE-C-024 SKM-STD-C-010

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					Method	Frequency	QN	MIL	Client		
2.7	Cutting	QN	Squareness= $\leq$ 4mm	MPS	Inspect	On-going	I	W		Inspection Records	
3.0	Welding seam test	QN	Yield strength $\geq$ 350MPa	MPS	Test	each group	H	W		Test records	
4.0	Check for defects- NDT	QN	Welded seam 10% UT / MT Splice welded seam 100% UT / MT	Supply of Piles AS1554.1	UT / MT	Spiral weld - 10%. Seam weld 100%	H	W	R	NDT test reports	CLB-SPE-C-024 SKM-STD-C-010
5.0	Pile shoe material inspection	QN	Complies with purchase order requirements C $\leq$ 0.20% Si $\leq$ 0.55% Mn $\leq$ 1.70% P $\leq$ 0.040% S $\leq$ 0.030% Yield Strength (YS) $\geq$ 350MPa Lamellation test passed Elongation 20% min Tensile strength (TS) $\geq$ 450MPa	AS 3678  AS1710 Level 2	Test	Per Delivery	H	H	R	Material Test Certificates	CLB-SPE-C-024 SKM-STD-C-010
5.1	Pile shoe dimension inspection  Thickness Circumference Outside Diameter Length	QN	$\pm$ 1.0mm  $\pm$ 1.0mm $\pm$ 10.0mm $\pm$ 5.0mm -0.0mm +20.0mm	MPS	Measure	On-going	I	W	W	MARKED UP DRAWINGS	
5.2	Pile shoe NDT longitudinal weld inspection	QN	100% UT / MT inspection	AS1554.1	UT / MT	100%	H	W	R	NDT test reports	CLB-SPE-C-024 SKM-STD-C-010
5.3	Pile shoe splice weld	QN	WPS	AS1554.1 AWS D1.1 2008	Inspect		I	W	W	WPS and PQR	CLB-SPE-C-024 SKM-STD-C-010
5.4	Pile shoe splice weld NDT inspection	QN	100% UT / MT inspection	AS1554.1	UT / MT	100%	H	W	R	NDT test reports	CLB-SPE-C-024 SKM-STD-C-010
6.0	Lifting holes		Diameter and position	MPS & drawings	Measure	Every pile	I	W	I	Inspection records	
7.0	Internal / external weld bead	QN	WPS	AS1554.1 AWS D1.1 2008	Inspect	Every pile	I	W	W	WPS	CLB-SPE-C-024 SKM-STD-C-010
8.1	Welding repairs	QN	MPS/WPS	MPS/WPS	Inspect	Every repair	I	W	R	NDT test reports	CLB-SPE-C-024 SKM-STD-C-010
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9.0	Final acceptance	QN	<u>Circumference:</u> $\pm$ 10.0mm <u>Outside Diameter:</u> $\pm$ 5.0mm <u>Thickness:</u> $\pm$ 10.0mm <u>Length:</u> -0~+ $\infty$ <u>Straightness:</u> 0.1% Length Max <u>Sauareness:</u> <4mm		Inspect	Every pile Section	H	W	W	MARKED UP DRAWINGS	

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			<u>Deviation from circ arc:</u> ±3.0mm <u>Splice Alignment-Radial:</u> <10.0% of Thickness <u>Splice Alignment-Circumferencial:</u> <3mm <u>Weld Bead:</u> Ground Smooth <u>Weld Height:</u> 3.0mm Max and Cross Section <1:4								
10.0	Transfer to coating stock yard	QN	SEE SEPARATE COATING ITP No: ITP-CLB-C-001 Rev1	MPS	Piece count	Every pile	W	W	W	Inspection records	SKM-STD-C-011
11.0	Return from coating	QN	MPS	ISO19840		Every pile	I	W	W	Inspection records	SKM-STD-C-011
12.0	Handing and storage	QN	Nil damage		Visual	Every pile	W	W	W	Inspection records	
13.0	Manufacturing Data Report	PQMR	Compile all documents according to MDRI				H	H	H / R	MDRI	APPEDIX II - MDR
14.0	Delivery	QN					H	H	H / R	Release certificate	

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