



China 2 West Services Ltd

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C2W Core Capabilities

C2W Laboratory Testing

C2W has close relations with two local independent laboratory testing facilities.

Inspection & Quarantine Technical Centre of Zhuhai, Entry-Exit Inspection & Quarantine Bureau of P.R.C.

This Chinese Government owned local laboratory facility specializes in metallic chemical composition and surface finishing test procedures.

See attached documents for some examples of example test reports (material composition and Rockwell Hardness test data sheets).

The lab testing processes we undertake is customer and project specific as we have the capability to test against any given requirement. C2W will specify our own minimum test parameters on initial project assessment, customer specific testing requirements above and beyond this can be undertaken at C2W discounted rate.

Intertek Lab Testing Facility - Shenzhen, Guangdong China

Intertek is world leader in laboratory testing and has a world class lab facility in the neighboring city of Shenzhen. C2W has established strong relationship with Intertek China and acts as our customer's eyes and ears in support of their capabilities - primarily in ensuring that product from customer orders are the products actually being sent for testing.

Our strong partner ship with Intertek is one of C2W's biggest strengths; Intertek has a world-wide network of 930 laboratories and 18,000 staff in over 100 countries.

Intertek Labs are capable of a wide range of testing to international US and European standards as per customer requirements. See www.intertek.com for additional information regarding Intertek and their capabilities.



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C2W Factory Audit/Inspection Services

We are ultimately flexible in our processes and you may be interested in C2W services for job specific inspection or full China side project management purposes. We currently offer specific inspection services on a straight forward service charge per job basis depending on the complexity of the project and time burden to our staff. Such a service can be tailored to your specific customer needs and may feature some or all of the following:

- Direct communication with a western member of staff, all correspondence will be done by a westerner. This helps to speed up the lines of communication and aid understanding, we will sort out all of the 'Lost in Translation' episodes at our end.
- Close supervision and work by a western member of staff on every aspect of your project;
- Factory inspection/Audit, with full reporting customized to your exact needs;
- Mid-point mass production QC check by a C2W QC expert, with custom report and photos;
- Mass production completion QC check (before your final payment) by a western QC expert with C2W translator, with report and photos;
- Any other miscellaneous tasks regarding your project;
- Pre-visit/hosting arrangements incase you wish to visit us and the factory at any point during the production schedule.

Factory Evaluation/Audit

Before placing an order with a new manufacturer it is important to ensure that your quality specifications are fully understood, that the supplier has adequate production capability, machinery, staff training, on job supervision, working conditions, management systems and quality control processes. Pictures from the supplier website or a glossy brochure are often a far cry from the reality of the daily workings of the factory.

Again this process is customer driven and C2W will inspect against any specified customer requirements.

A generic starting point for the inspection process is as follows:

- Vendor identification

Legitimacy is major concerns here in China; view our attached SVCL (Supplier Verification Check List). C2W get this completed by all of our suppliers before commencing work as well as legally binding production contracts with penalty clauses for late delivery or failed QC for all stages. All documents will be authorized/signed by the factory owner and cross referenced against the owners ID, signature and official company chop (stamp). The stamp is binding in China but it must be the official company one to hold any legal merit. Warning bells should go off if any factory is less than willing to provide any of this documentation.

- Current Product range

- Major market & major clients

- Manpower

An important requirement often over looked is the factories ability to draw in extra man power when urgent orders or rework are required and a tight deadline applies.

- **Production capability**
- **Machinery and equipment**
- **Management and quality procedures**
- **Manufacturing processes**
- **In-house quality control - testing and inspection**
- **Raw material management**
- **Semi-finished and finished product management**

Shop floor and general inventory handling processes

The new supplier factory audit/SVCL procedure will only be required if utilising a non C2W supply source. We have an extensive range of suppliers covering a wide range of fields which we are confident are capable of meeting a wide range of engineering project requirements. We have staff in these factories almost daily overseeing our wide range of ongoing manufacturing projects.

Pre Production Inspection

C2W will perform inspections throughout the production process. A critical step often overlooked is the very early stages of production (not more than 5% produced). All raw materials and components will be inspected to ensure all components meet pre defined customer requirements.

The initial output from production line will be checked against the approved sample and specification. C2W works with the factory in order to improve production processes and provide technical advice in order to improve the product quality to ensure the products will pass all future inspections.

To detect any potential defect, C2W will randomly select a number of semi-produced products for checking and report our findings to client for reference.

During Production Inspection

As soon as the first products come off the production lines, designated C2W inspection staff member will be on the factory floor to check for any defects or deviation from pre defined quality parameters. If problems are identified practical and effective solutions of ways in which these can be rectified in the production process will be offered.

During Production Inspection will be completed periodically throughout production at pre defined periods. If a project is of high complexity or of significantly substantial quantity full time C2W factory representation may be allocated with a daily reporting structure. An example standard inspection procedure would be completed at the following key production stages:

< 5% Produced, 10-15% Produced, 40-50% Produced, 75% Produced and 90-100%.

If at any stage problems should occur, C2W identifies the deviation and provides advice on the corrective measures to get production back on track.

Attached is an example of a mid production inspection document from a recent C2W project.

Final Random Inspection

The pre-shipment inspection takes place when the production run has been completed and is packed and ready for shipment. The designated C2W inspector will pull a random sample of finished goods and QC against pre-established product criteria.

Common checks will be against quantity, workmanship, function, colour, size specifications and packing details, all ensuring the contracted specifications are met. These again will in reality be completely specific depending on the project requirements.

Supervision of Loading/Final Loading Inspection

This service is offered at the manufacturer's premises, warehouse or forwarder during container loading after our final inspection. C2W will co-ordinate with the Manufacturer to observe that the proper environmental conditions, cleanliness and integrity of the containers are adequate for the transport of the shipment to its final destination.

For Loading Supervision, C2W will oversee the entire loading process to ensure the correct ordered merchandise is loaded into the container.

The following information will be checked and recorded:

- **Loaded quantity against the submitted packing list**
- **Container ID number and sealing code**
- **Form of packing**
- **Weather condition**
- **Arrival/departure time of the container**
- **Photos of the inside of the and outside of the container**
- **The outer surface condition of the container and general condition of the truck for transportation purposes**



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To verify the loaded goods are exactly as per your order requirements C2W will randomly draw and open the packing units before closing and then sealing of the container.

C2W Product Part Approval Process (PPAP)

C2W is in the process of working to adopt the Production Part Approval Process (PPAP) across our manufacturing projects. The purpose of PPAP is to ensure our entire customer engineering design record and specification requirements are properly understood by our suppliers. This ensures the manufacturing process has the potential to produce product consistently meeting these requirements during a full production run at the quoted production rate.

Standard PPAP includes the following documentation:

- Design Records
- Material Certification
- Authorized Engineering Change Documents
- Design Failure Mode and Effects Analysis (Design FMEA)
- Process Flow Diagram
- Process Failure Mode and Effects Analysis (Process FMEA)
- Control Plan
- Measurement System Analysis Studies
- Dimensional Results
- Records of Material / Performance Test Results
- Initial Process Studies – Quality Indices (established acceptance criteria)
- Qualified Laboratory Documentation
- Appearance Approval Report
- Sample Production Parts
- Master Sample
- Checking Aids
- Customer Specific Requirements
- Part Submission Warrant

C2W is currently in the process of formalizing its documentation to meet all PPAP requirements. This will then be adopted across all engineering based projects.

Mark Jacobs BEng
General Manager

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