

## **PORT AND MARITIME INSPECTIONS**

**MARSS** has specialized on this area and counts with a highly professional team composed by captains, merchant engineers, technical experts and experienced staff which will provide you support and solution to your service needs.

### **SERVICES**

- Damages to pier fenders, bollards and dolphins.
- Aptitude and cleaning inspections of vessel holds.
- Draught survey.
- Tonnage determination of loaded cargo or discharged by displacement difference.
- On/Off hire bunker and ship's condition.
- Bunker survey, BQS.
- Tightness of ship's hatch covers (by means of ultrasound equipment).
- Reefer ships and temperature control.
- Quantity control and tally.
- Warehouse inventory.
- Mooring lines inspection.
- Damages and contamination of marine environment.
- Inspection and certification of cranes, bollards, lifting equipment and port accessories.
- Underwater hull inspections
- Services in accordance to your needs.

## **MINING PRODUCTS INSPECTIONS**

Since its foundation, **MARSS** has been working actively as an independent Company providing services of Inspection and Certification upon loading and discharge of a variety of mining products.

### **SERVICES**

- Cargo preloading inspection.
- Condition and Suitability inspection of cargo holds prior to loading, including ultrasound and watertight tests.
- Supervision of cargo loading (stowage and trimming) and discharge.
- Cargo holds' inspection and sealing.
- Cargo sampling and analysis by independent laboratories.
- Tally control and certification.
- Loading and discharge control of bulk liquids.
- Port Captain Service.
- Maritime Technical Investigation and Advisory.
- Advisory in Dangerous Goods (IMDG- IMO).

## **FOREST PRODUCTS INSPECTIONS**

**MARSS** can provide services through its international network, being especially strong in risk prevention services, loss control and other specific requirements from customers in America and Asia.

### **SERVICES**

- Pre-loading control.
- Weight control and certification.
- Volume control and certification.
- Loading and/or discharging tally control and certification.
- Inspection of condition and competence of cargo holds and containers.
- Inspection of cargo packaging, containers and shipper marks.
- Fumigation supervision of cargo holds and vessels.
- Quality verification and tests in independent laboratories.
- Non-polluted cargo supervision.
- Cargo stowage and lashing supervision.
- Damaged cargo inspection.
- Control at ports of discharge in Asia, Europe and USA.

## **PROJECT CARGO**

The international transportation of project cargo leads to discrepancies between service providers; therefore, it is very important to establish the cargo condition while it is under custody, as well as when cargo is transferred from one provider to another. The services of our company are integral, it means, we can carry out a tracking of your cargo from factory to ending point of arrival, at stacking area of the project.

### **GENERAL SERVICES**

- Inspection in factory (cargo condition, packing, verification of lifting points, lashing, centre of gravity, documentation).
- Cargo loading supervision in factory.
- Road-to port transport control.
- Supervision of cargo loading, stowage and lashing on board of the vessel.
- Cargo arrival inspection and discharge supervision from vessel.
- Supervision of loading onto truck and lashing of cargo.
- Road transport follows up control.

- Cargo discharge and delivery supervision at project site.
- Cargo assembling supervision and start up.

**Other services:**

- Assembling and disassembling of plant and equipment Supervision.
- Advisory in packing design, lifting points and lashing.
- Advisory and optimization of transport logistics.
- Identification of risk key components.
- Advisory in Chartering and supervision of service providers' contracts.
- Cargo delivery certification.
- Supply of Port Captain, Supercargo, Lifting Superintendent.
- Planning of contingency and crisis management.
- Casualty investigation and expert evaluation.
- Control of cargo dispatch and reception.
- Cargo assembling supervision.
- Administration and control of cargo stacking area.
- Inspection of products.
- Vehicles' inspection.

## **SUPERVISION**

**MARSS** experts in supervision, an endorsement of experience for our customers' products and businesses

- Cargo condition.
- Differences regarding quantity, weight and volume.
- Packing.
- Stowage and lashing.
- Moisture and temperature.
- Cleaning and tightness of containers, holds and tanks.

Make sure to inspect and certify your cargo prior to be loaded by an independent company of surveyors. In the event of having some difference with your commercial counterpart, an inspection survey report will allow you to establish the condition of your cargo, saving money, time and commercial image. Make contact with us if you have some requirement/necessity in a foreign country, we can protect your interests in Chile and abroad.

- Cargo pre-loading control.
- Cargo weight and certification.
- Cargo volume control and certification.
- Cargo loading and/or discharging tally control and certification.

- Inspection condition and suitability of holds and containers.
- Inspection to cargo packaging, containers and marks.
- Supervision of fumigation of holds and vessels.
- Verification of quality and tests in independent laboratories.
- Loss prevention - contaminated cargo.
- Supervision of cargo stowage and lashing.
- Inspection of damaged cargo.
- Control in discharging ports in Asia, Europe and USA.
- Supervision of stuffing and stripping of containers.

## **CARGO INSPECTIONS**

The services to cargo provided by our company have national coverage. When you need a service, we can assist you on time. Highly skilled professionals will be able to provide you advisory and technical support in the care of your cargo to reduce risks of damages, shortage and, of course, mitigate the adverse impact in case of some sinister affecting your interests.

- Oversized cargoes.
- Heavy vehicles and machinery.
- Cargo measurement.
- Stowage and lashing of cargo into containers.
- Steel products, coils, pipes, plates, bars, etc.
- Reefer containers and cargo. Loss of cooling chain
- Bulk cargoes: mineral concentrates, grains, cement, fertilizers, etc.
- Inspection of incidents: damages to cargo, machinery, third parties' property and people.



## **CRANE AND LIFTING EQUIPMENT INSPECTION AND CERTIFICATION**

We have a specialized team that inspect and certify lifting equipment for mining, maritime (ports and ship), construction and energy areas.

- Overhead and gantry crane inspection and proof load testing.
- Mobile crane (lattice, articulated, and telescopic) inspection and proof load testing.
- Lifting equipment under the hook such as: Spreaders beams, bars, platforms, square lifting beams, etc.
- Minor lifting equipment's; chains, wire slings, hooks, shackles, web slings, etc.
- Break strength testing at bench.
- Lifting material inventory and selection.
- Lift risk assessment.
- Worldwide inspection and certification of cranes and lifting equipment.

Our company is accredited by INN (National Institute of Standardization) to carry out these inspections and certifications.

ASME inspectors.

### **EQUIPMENT FOR RENTAL:**

- Certified dynamometers and flow meters.
- Certify tubular synthetic slings with different capacities.
- Water bags up to 200 tons.
- Calibrated solid mass for testing up to 300 tons.
- Platforms up to 300 tons.

### **TRAINING IN LIFTING SUBJECTS:**

- Safe lifting.
- Crane operator certification.
- Legal responsibility in the use of cranes and lifting equipment.
- Rigger and best practices.
- Tandem lifting's; training and preventive measures.
- Lift director.

## **SPECIAL CERTIFICATIONS AND ACCREDITATIONS:**

- ABS ISO 9001:2008 Cert. # 43500 - Inspection of Cargo and Equipment.
- ISO 17020 by INN (National Institute of Standardization) in overhead, gantry and mobile cranes and under hooks lifting equipment, cert # OI 199 and OI 200.
- Verification entities such as Achilles - Repro, Sicep, etc.
- ASME inspectors and members.

## **Crane and lifting devices inspection and certification services**

### **CRANES AND LIFTING EQUIPMENT: INSPECTION AND CERTIFICATION**

We have a team of professionals specialized in inspections for equipment used in the fields of mining, construction, energy, maritime and port area.

- Bridge and Portal Cranes.
- Telescopic mobile, lattice and articulated cranes.
- Below-the-hook lifting devices; spreaders, beams, bars, cargo platforms, quadrants for electrical rooms, etc.
- Lifting equipment; chains, synthetic and iron stobes, hooks, shackles, synthetic slings.
- Equipment for hydraulic loading tests.
- Inventory and selection of lifting equipment.
- Risk assessment of lifting maneuvers.
- Structural Calculations.
- Advice and monitoring on the fabrication process of lifting equipment.
- Inspection and certification of lifting equipment whenever and wherever you need it.

Our Company is accredited at the INN (Chilean National Institute of Standards) in order to carry out this type of certifications.

### **SOME OF OUR EQUIPMENT:**

- Certified dynamometers and volumetric counters.
- Certified tubular slings.
- Up to 300 tons Water - Bags.
- Up to 300 tons of solid calibrated weights.
- Up to 300 tons testing platforms.

### **TRAINING**

- Safe lifting.
- Crane Operator.
- Responsibility on the use of lifting equipment.
- Lifting and Rigging good practices.
- Tandem Lifting; Training and safety measurements.
- Lifting Director.

### **OUR CERTIFICATION AND ACCREDITATION**

- ABS ISO 9001:2008 Cert. # 43500 – Cargo and equipment Inspection.
- OHSAS 18001

- NCh. ISO 17020 by INN (The Chilean National Institute of Standards) in Bridge, portal and Mobile Cranes; and Below-the-hook lifting devices. Cert # OI 199 and OI 200.
- Validation entities such as Repro - Achilles, Sicep, etc.
- Our inspectors count with ASME courses in lifting equipment.

## QCS

### **Quality Control Services**

#### *1) Factory Audit*

- Factory Profile (General Information)
- Organizational Structure
- Production Processes
- Production Capacity
- Premises and machinery
- Safety and Quality certificates
- I + D
- Client's special requirements

#### *2) Product testing during production*

- Sample collecting and sending to any destination the client requires
- Laboratory or Factory tests
- Electrical tests
- Material properties
- Material resistance
- Functionality
- Handcrafting
- Especial requirement.

### *3) Large Project Quality Control*

- Technical specifications supervision
- Structural calculations
- Blue prints
- Materials verifications
- Fabrication process supervision
- Functional testing
- Periodic Reports
- Supervision of the lashing and stowage of the cargo
- Port escort at shipping and destination port
- Client's especial requirement

### *4) Pre-Shipment inspection*

- Quantity
- Handcrafting
- In-situ testing
- Product specifications
- Packaging
- Marking and labelling
- Client's especial requirement



### 5) *Container stuffing inspection*

- Quantity and variety
- Condition of containers
- Condition of the boxes to be exported
- Shipping Markings
- Right Products
- Appropriate load supervision
- Delay of the load during conditions
- Adverse environmental
- Special customer requirements

## **OUR PACKS**

- 1) Pack *"MARSS full accompaniment"*



Since the moment you select your production factory, we will be evaluating the production process and selecting some samples; until their goods are stowed in the container for later shipment. Recommended for your first project abroad.

Factory Audit + Product Testing + Pre-shipment + Container stuffing.

### 2) Pack "MARSS Strategic supervision "

We ensure the choice of your factory and review your finished production until it is packed and stowed in the container that will take it to its destination.

Factory Audit + Pre-shipment Inspection + Container Stuffing inspection

### 3) Pack "MARSS assures the departure"

We go to the factory when the whole production is finished, we make sure that your product complies with the established quality parameters and we supervise the stowage process in the container that will take your goods to your destination.

Pre-shipment inspection + Container stuffing inspection



**Ask for our annual plan services “MARSS Membership”**

**Industrial Services Catalogue**

Mining equipment Certification

Certification of tanks trucks for dangerous cargo (Hermeticity)

Tank trucks certification (Sealing)

Certification of special trucks

Certification of flat racks and low beds

Depressurization or relief valve operation certification

Thickness measurement control

Preventive evaluation of physiological conditions of the driver en route

Preventive evaluation of general mechanical conditions of road equipment

Special requests tailored to the client

Audits of maintenance plans

Special audits



We use:

- ✓ Non-destructive tests (NDT): Magnetic particles and penetrating inks
- ✓ Tests under international standards
- ✓ Qualified professionals
- ✓ Certified instruments and test benches

We have the best and most experienced professional team and we are leaders in the use of technology, all at the service of our customers.