



# SUGAR SURVEY



*It's Shipping & Survey*



**Our Company CISS GROUP  
(Commodities International  
Shipping and Survey) –  
this is a team of professionals  
with experience of doing business  
in major international companies  
more than 15 years.**

## ABOUT COMPANY

Head office of **CISS GROUP** is located in Singapore. We have teamed up our forces, experience and knowledge in order to offer only the best practice and business solutions in the field of independent inspections and vessels chartering for active commodities traders, producers and others players all over the world.

Operational excellence and high standards of **CISS GROUP** allow our partners feel protected twenty-four-hour a day.







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## **CISS GROUP** offers services throughout the main global Sugar production regions:

### **South and Central America:**

Brazil regional operations play an important and integral part of our global sugar services. With operations in Santos & Paranagua, each office can also offer analysis within a fully equipped sugar laboratory. The regional service also extends to Mexico & other Central American countries.

### **Asia:**

Thailand is also a key origin with full regional operational and analytical capability to service the Thai raw and refined sugar inspection market. India: We are active within the containers export market, in addition to the raw sugar import & break bulk refined exports.

### **Middle East:**

Focusing on exports from refiners or producers (UAE, Sudan) and the main buying destinations (Iraq, Yemen, Iran, Turkey and Saudi Arabia).

### **Europe:**

France, Belgium, Netherlands, Poland, Germany, Ukraine, Russia, Turkey.

### **Africa:**

Mainly (but not limited to) Senegal, Guinea Conakry, Côte d'Ivoire, Benin, Ghana, Liberia, Sierra Leone, Mali, Nigeria, Angola, South Africa, Kenya, Tanzania, Uganda, Madagascar, Djibouti, Ethiopia, Somalia, Eritrea, Sudan, Algeria and Egypt.





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# SUGAR INSPECTION

**Offering services for refined, raw and crystal sugar industries**  
**CISS GROUP plays a prominent role in the sugar testing, inspection and certification markets.**

Executing services for goods shipped in bags, transported break bulk or by containers, our company is present along all elements of the supply chain.

**CISS GROUP** has an outstanding reputation and enjoys the trust of the main traders, growers, refiners, government organizations through to end user retail and consumers groups within the sugar industry.

**CISS GROUP** dedicated sugar inspection teams operate within all the main exporting countries, supported by competent and professional laboratories performing analyses as per current ICUMSA analyses methods and food safety analysis. Inspections are performed per our internal control procedures and applicable rules and standards, including: RSAL (Refined Sugar Association of London), SAL (Sugar Association of London) or NYK 11.





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# SUGAR INSPECTION

Aiming for loss prevention of sugar, **CISS GROUP** offers the inspections of sugar in bulk as well as in bags both for raw and refined sugar. Our inspections are performed at warehouses and during loading into container or vessels.

Similar services with FOG (Full Outturn Guarantee) are also provided at discharge for all kind of transport modules.







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**Main activities of sugar inspection and supervision offered by CISS GROUP can be described as follows:**

- Pre-shipments sampling and analysis as per require by the client's quality specification
- Survey of physical condition
- Inspection of package
- Pre-loading condition survey
- Survey of loading
- Sampling for express testing during loading / unloading
- Tallying of bags
- Weight control of bulk sugar
- Draft survey
- Damage control and assessment of sugar at requested points of entire logistic chain
- Sealing of ship's holds / containers
- Consulting
- Reporting





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**CISS GROUP inspection and control of sugar at storage or shipment by professional surveyors is highly recommended for prevention of damages and related claims.**

One of frequently happening type of damage can be related to water contamination due to humidity of the atmosphere or unsuitable containers or vessel's holds (not water tight). Here both excessive moisture as well as excessive dryness of the sugar can cause serious damage and loss of cargo value or its quantity.

Professional inspection carried by **CISS GROUP** surveyors at storage places described below can prevent these occurrences:

- Supervision and monitoring of weather during loading and discharging
- Identifying sea water contamination by Silver Nitrate testing of sugar samples
- Carefull control and inspection of the sugar condition per sampling and analysis
- Determination of the foreign matter percentage in sugar for proper weight calculation
- Survey of storage for its suitability to store or carry the sugar and prevent mold, and caking of sugar due to unproper condition.





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## CONTAINER

Survey and supervision of containers used for sugar loading and carriage:

- Cleanliness of container
- Condition of floor, ceiling, doors and other openings & locks
- Control of proper application of interlinear used for sugar loading
- Control of containers after discharge for its cleanliness.
- Control of loading and bags stacking to avoid cargo pressure compacting, stickiness and caking
- Sealing of container doors.

**SUGAR  
INSPECTION**

## VESSEL

- Survey of the vessel holds before loading – clean, dry and free from any noticeable smell & rest of previous cargo
- Supervising and rejection of damaged cargo – lumped and caked bulk sugar or damaged and spilled bagged sugar
- Halting loading in bad weather - raining or snowing
- Survey of cargo holds to prevent damage from any protruding cargo batten hooks or fittings
- Survey to dunnage used for a separation of sugar and ship's structure.
- Survey of stowage for proper use of available hold's volume and proper ventilation
- Inspection of condensation of air on the bags of sugar
- Sealing of holds.

When damages by fresh or salt water are apparent sugar should not be considered a total loss. **CISS GROUP** surveyors shall determine the further proper steps to diminish losses.







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## TYPES OF SUGAR

### There are many kinds of sugar:

Granulated sugars, Milled sugars, Screened sugars (crystalline products), Brown sugars, Sugar cubes, Liquid sugars, Invert sugars, Syrups and Treacle, Low calorie sugars and Sweeteners, Polyols, Raw sugar and others – all these types of sugar shall be differently packed and transported. **CISS GROUP** control and supervision can assure and prevent losses and damages.

### Main methods used for sugar common analysis:

- **Moisture content** – ICUMSA GS2/1/3/9-15, DSTU 3659
- **Polarisation** – ICUMSA GS 2/3-1
- **Ash content** – ICUMSA GS 2/3/9-17, DSTU 4872
- **Colour** – ICUMSA GS2/3-10, DSTU 4866



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## Main Analyses for Sugar can be described and clarified as follows:

### Sugar Quality: Polarisation

The Polarization is measured by the optical rotation of polarised light, passing through the sugar, meaning the measuring the amount of light refracted through the final product.

The higher the polarisation, the purer the sugar is; the lesser the polarisation, the more impurities are present in the sugar.

### Sugar Quality: Ash

This term refers to all the inorganic components that are naturally present in the cane or beet. This non-sucrose residue found within the crystal is determined by the conductivity of the solution. The higher the ash in raw sugar, higher refining costs will be incurred as it will take longer to purify and there will be less yield.







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## SUGAR COMMON ANALYSES

### Sugar Quality: ICUMSA Colour Measurement

Another way that sugar quality is measured is through 'colour'. The term colour refers to a wide range of complex and molecular components that contribute to the overall appearance of sugar.

The processing of cane or beet can produce different scopes in terms of colour. In fact, this was seen as so important that in 1897, ICUMSA was officially formed, also known as The International Commission for Uniform Methods of Sugar Analysis.

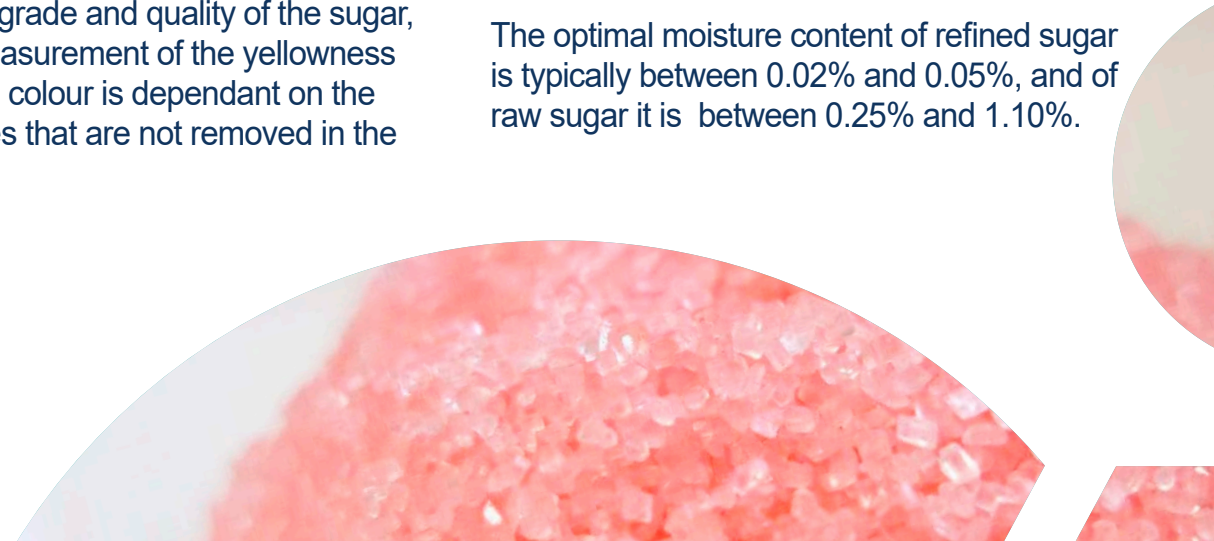
This International Standards body has provided a benchmark in terms of measuring and defining the grade and quality of the sugar, based on the measurement of the yellowness of the sugar. The colour is dependant on the residual molasses that are not removed in the refining process.

### Sugar Quality: Moisture

Reducing moisture in sugar is very important, as sugar is hygroscopic (meaning it absorbs moisture from the air) and can cake if it becomes too moist. Generally speaking, moisture in sugar can be separated into three separate categories and is expressed as a percentage:

- Bound moisture – the moisture trapped between the crystallised sugar and a thin surface layer of amorphous sugar
- Internal moisture – the moisture inside the crystal itself
- Free moisture – the surface moisture in the syrup film

The optimal moisture content of refined sugar is typically between 0.02% and 0.05%, and of raw sugar it is between 0.25% and 1.10%.





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