



## **GAFTA Survey Rules No.124 – Technical and Commercial Analysis**

### **1. Introduction**

The GAFTA Survey Rules No.124 constitute one of the most authoritative international standards governing the determination of cargo weight by Draft Survey for bulk commodities. Issued by the Grain and Feed Trade Association (GAFTA), these rules are widely incorporated into contracts for grains, oilseeds, meals, fertilizers, and other dry bulk cargoes.

In commercial practice, GAFTA Rules No.124 serve not only as a procedural guideline, but also as a benchmark of acceptability in claims handling and maritime arbitration. When properly applied, a Draft Survey conducted in accordance with GAFTA No.124 is regarded as a fair, transparent, and technically reliable method of determining cargo quantity.

### **2. Scope and Applicability**

GAFTA Survey Rules No.124 apply to:

Determination of cargo weight by Draft Survey.

Bulk cargoes loaded or discharged by weight difference.

Situations where shore scales are unavailable, unreliable, or contractually excluded.

The Rules are typically invoked:

- When explicitly stated in GAFTA contracts
- When Draft Survey is agreed as the determining method of weight

- In disputes concerning shortage, excess, or contamination claims

**GAFTA No.124 does not replace good seamanship or naval engineering principles, but formalizes them into a commercially enforceable framework.**

### **3. Fundamental Principle of GAFTA No.124**

The Rules are based on a single governing principle:

**Cargo Weight** = Difference between final and Initial Displacement of the Vessel, subject to all necessary corrections.

**This principle requires that:**

- Both surveys (initial and final) are conducted with equal rigor.
- All variable weights are measured or accounted for:
- Environmental and hydrostatic corrections are properly applied

**Any deviation from this principle undermines the credibility of the survey.**

### **4. Independence and role of the Surveyor**

GAFTA No.124 places strong emphasis on the independence, competence, and impartiality of the surveyor.

**Key expectations include:**

- The surveyor must act independently of Owners, Charterers, Shippers, and Receivers



- The surveyor must be technically qualified and experienced in Draft Surveys;
- Observations and calculations must be transparent and reproducible and
- In arbitration, the credibility of the surveyor is often as important as the numerical result itself.

## **5. Draft Reading Requirements**

### 5.1 Locations and Frequency

**GAFTA No.124 requires draft readings to be taken:**

- At forward, midship, and aft draft marks
- On both port and starboard sides
- Under stable conditions, minimizing vessel movement
- A minimum of six draft readings is therefore mandatory.

### 5.2 List and Trim Control

#### **The Rules require:**

Correction for list by averaging port and starboard readings;

Accurate determination of trim;

Application of trim correction using the vessel's hydrostatic data and

Excessive list or uncontrolled trim may invalidate the survey or significantly reduce its accuracy.

## **6. Hydrostatic Data and Interpolation**

**GAFTA No.124 mandates the use of:**

- Approved and vessel-specific hydrostatic tables
- Correct reference to keel datum
- Linear interpolation for intermediate drafts
- The surveyor must ensure:
- The hydrostatic data corresponds to the vessel's condition
- No extrapolation beyond tabulated values
- Proper correction to even keel displacement

**Failure in hydrostatic interpretation is a frequent cause of disputes.**

## **7. Water Density Determination**

### 7.1 Measurement Requirements

**GAFTA No.124 requires:**

- Measurement of water density at or near the vessel
- Sampling at multiple points when water stratification is suspected
- Use of calibrated instruments

### 7.2 Density Correction

- Since hydrostatic tables are based on a standard density (normally 1.025 t/m<sup>3</sup>), displacement must be corrected to actual water density:
- Corrected Displacement = Tabulated Displacement × (Actual Density / Standard Density)
- Incorrect density determination is one of the most common and most heavily challenged errors in Draft Surveys.



## 8. Measurement of Liquids and Variable Weights

GAFTA No.124 requires all non-cargo weights to be:

Measured, not assumed

Clearly documented

Converted from volume to mass using correct density and temperature corrections

This includes:

- Ballast water
- Fuel oil and diesel oil
- Fresh water
- Lubricating oil
- Slops and residues

Estimation without measurement is not acceptable under the Rules.

## 9. Ship's Constant

### 9.1 Definition

The ship's constant represents:

- All unmeasured, non-variable weights
- Structural items, coatings, sediments, and residuals

## 9.2 GAFTA Treatment

GAFTA No.124 requires:

- Calculation of the ship's constant during the initial survey
- Consistency of the constant between surveys.
- Investigation of abnormal variations
- Significant fluctuations in the constant are considered a strong indicator of error and are often decisive in arbitration proceedings.

## 10. Documentation and Reporting

GAFTA No.124 implicitly requires that Draft Survey reports be:

Clear, logical, and fully traceable

Supported by calculations and observations

Capable of independent verification

Best practice includes:

- Photographic evidence of draft marks
- Density sampling records
- Tank sounding sheets
- Calculation summaries

**In arbitration, poor documentation can invalidate an otherwise correct survey.**



### 11. GAFTA No.124 in Maritime Arbitration

In maritime arbitration, GAFTA Survey Rules No.124 are treated as:

- A recognized industry standard
- Evidence of good commercial practice
- A benchmark for assessing survey reliability

#### Tribunals generally examine:

- Compliance with GAFTA procedures
- Technical coherence of the calculations
- Professional conduct of the surveyor
- A Draft Survey aligned with GAFTA No.124 carries substantial evidentiary weight.

### 12. Conclusion

GAFTA Survey Rules No.124 provide a robust technical and commercial framework for Draft Surveys in the bulk trade. They bridge the gap between naval architecture principles and contractual enforceability, making them indispensable in modern maritime commerce.

When rigorously applied, GAFTA No.124 ensures:

- Technical accuracy
- Commercial fairness
- Legal defensibility

**For surveyors, engineers, and commercial operators alike, mastery of GAFTA Survey Rules No.124 is not optional—it is a professional necessity.**

