

## 50ml Cylindrical Carbon Analysis Sampling Cup Designed for Sampling Carbon in Different Substances

Our Product Introduction

for more products please visit us on [melt-furnaces.com](http://melt-furnaces.com)

### Basic Information

- Place of Origin: China
- Brand Name: Huarui
- Model Number: AF2501



### Product Specification

- Ease Of Use: Easy
- Cleaning Method: Dishwasher Safe
- Accuracy: High
- Portability: Portable
- Size: 50ml
- Material: Stainless Steel
- Shape: Cylindrical
- Manufacturer: Carbon Analysis Inc.
- Highlight: 50ml carbon analysis sampling cup, cylindrical carbon sampling cup, carbon sampling cup for substances



## Product Description

### Product Description:

Introduction: Where Precision Begins – In Your Hands

In the dynamic, high-stakes environment of a modern foundry or steel mill, the margin for error is infinitesimally small. The quality of a final casting or a batch of steel is irrevocably determined by the chemical composition of the molten metal. While sophisticated spectrometers and thermal analysis units provide the critical data, their accuracy is entirely dependent on one crucial, yet often underestimated, component: the sampling cup.

The **Huarui Carbon Analysis Sampling Cup** is not merely a container; it is the first and most critical step in your quality assurance protocol. Engineered with scientific rigor and an intimate understanding of foundry challenges, this cup transforms a scoop of molten iron into a perfect specimen, ensuring the data you base your multi-million dollar decisions on is unequivocally reliable. It is the indispensable partner to your Huarui furnace, extending our commitment to quality from the melting process to the analytical stage.

### Features:

Why does a seemingly simple cup matter so much? The answer lies in metallography.

**The White Iron Imperative:** Accurate carbon and silicon equivalent (CE, C, Si) analysis via fast cooling methods requires the sample to solidify as white iron—a hard, brittle structure where carbon is trapped in chemical combination. If the sample cools too slowly and forms gray iron (with free graphite flakes), the analysis readings will be inaccurate and unreliable, leading to catastrophic miscalculations in inoculant or carbide additions.

**A Miniature Foundry:** A premium sampling cup is a miniaturized, controlled casting environment. Its design, material composition, and cooling geometry are meticulously calculated to dictate the thermal dynamics of the solidifying sample, forcing the formation of the required white iron structure consistently, every single time.

A substandard cup introduces variability, the nemesis of quality control. The Huarui Sampling Cup eliminates this variable.

### Technical Parameters:

#### 3. Huarui Design Philosophy & Core Technological Advantages

Our sampling cups are the product of a philosophy centered on precision, safety, and consistency.

##### 3.1. Advanced Material Science for Uncompromised Sample Integrity

**High-Purity Base Materials:** We use only selected, high-purity quartz sands with low levels of trace elements that could contaminate the sample or interfere with the analysis.

**Proprietary White-Out Agent Formulation:** The inner surface of the HR-CSC cup is coated with our proprietary blend of white-out agents (typically tellurium or bismuth-based). This formulation is optimized to rapidly promote chill formation without creating excessive internal stresses that could cause cracking.

**Thermal Shock Resistance:** The binder system and material composition are engineered to withstand the immense thermal shock of receiving 1350-1500°C molten metal without cracking, spalling, or eroding. This ensures operator safety and sample integrity.

##### 3.2. Optimized Geometric & Structural Design

**Controlled Solidification Pathway:** The cup's geometry is not arbitrary. It is designed to promote directional solidification from the bottom up and from the outside in, minimizing shrinkage porosity and ensuring a dense, homogeneous sample with a uniform white iron structure throughout the critical analysis zone.

**Ergonomic and Safe Handling:** The cup features a robust, extended-length handle made from reinforced cardboard or composite material. This provides a secure, heat-shielded grip, allowing operators to sample quickly and confidently, significantly reducing the risk of burns and handling errors.

**Identification Ready:** A flat, smooth surface is incorporated into the design for easy marking with a heat-resistant pen or stamp, allowing for seamless sample traceability back to a specific heat, ladle, or time stamp.

##### 3.3. Unparalleled Manufacturing Consistency

**Automated Production Lines:** Consistency is king. Our fully automated production process ensures that every single Huarui Sampling Cup, from batch to batch, has identical weight, dimensions, density, and thermal properties. This repeatability is fundamental for building a long-term, trustworthy historical database of your metal quality.

### Applications:

#### Application Scenarios: Where Huarui Sampling Cups Excel

The HR-CSC Series is versatile and reliable across numerous industrial applications:

**Frontline Foundry Analysis:** Ideal for fast-paced cupola, electric arc, and induction furnace (like Huarui furnaces) environments for immediate, pre-pour chemistry verification.

**Ductile Iron Production:** Critical for ensuring the correct base chemistry before magnesium treatment and subsequent inoculation.

**Steel Manufacturing:** Used for quick-check carbon analysis in steel melts, providing vital data for end-point control.

**In-Plant Quality Laboratories & Third-Party Inspection Agencies:** The gold standard for reliable and repeatable sample acquisition for certification and quality audits.

### Customization:

Customize your Carbon Analysis Sampling Cup from Huarui with Model Number AF2501, originating from China. The cylindrical shape of

this cup is designed for efficiently sampling carbon in various substances. Its sleek silver color adds a touch of sophistication to your lab equipment. Compatible with various Carbon Analysis Machines, this cup weighs 100g, making it a convenient tool for your analytical needs. Enhance your experience with Charcoal Carbonization Machine, Charcoal Carbonization Machine, and Engine Carbon Cleaning Machine by personalizing this sampling cup to meet your specific requirements.

### Support and Services:

---

The Carbon Analysis Sampling Cup is a specialized product designed for accurate and efficient carbon analysis. Our technical support team is available to provide assistance with product setup, troubleshooting, and any questions related to the product's functionality. In addition, we offer a range of services to support our customers, including training programs, product maintenance, and calibration services. Our goal is to ensure that our customers have the resources and expertise they need to maximize the performance of their Carbon Analysis Sampling Cup.

### Packing and Shipping:

---

**Product Packaging:**

The Carbon Analysis Sampling Cup is carefully packaged in a sturdy cardboard box to ensure its safe delivery to your doorstep.

**Shipping:**

We ship our products using reliable courier services to deliver your Carbon Analysis Sampling Cup in a timely manner. Please provide accurate shipping information to avoid any delays.

### FAQ:

---

- Q: What is the brand name of the Carbon Analysis Sampling Cup?  
A: The brand name is Huarui.  
Q: What is the model number of the Carbon Analysis Sampling Cup?  
A: The model number is AF2501.  
Q: Where is the Carbon Analysis Sampling Cup manufactured?  
A: The product is manufactured in China.  
Q: Is the Carbon Analysis Sampling Cup reusable?  
A: Yes, the sampling cup is reusable.  
Q: What is the material of the Carbon Analysis Sampling Cup?  
A: The cup is made of high-quality plastic material.



华瑞电炉  
Huarui Electric Furnace

Shandong Huarui Electric Furnace Co., Ltd.



+86 13235363441



sales@huarui-furnace.com



melt-furnaces.com

Mount Taishan Street, Anqiu Economic Development Zone, Weifang, Shandong, China