
CYMCO TECHNOLOGIES, LLC

Yunnan Aluminum Co., Ltd.

Class A material procurement and acceptance requirements

Held by department: Quality Management Division

Date: January 1, 2012

Purpose

1 Class A materials procurement and acceptance of standardizing activities in the country (industry) standard based on the actual situation of the company, to develop a Class A material procurement and acceptance requirements.

2 Scope

Applies to the procurement and acceptance of the company's Class A materials.

3 Duties

3.1 Quality Control Department is responsible for formulating the Class A material procurement, inspection requirements, according to the document control procedures to manage.

3.2 A class of materials procurement department is responsible for quality in accordance with the provisions of this requirement to the supply-side requirements and procurement.

3.3 Quality Control Department, A class of materials using unit is responsible for the acceptance of the provisions of this requirement.

4 Working Procedures

4.1 A class of materials include:

Alumina, petroleum coke, modified bitumen, heavy oil, anthracite / (coke D), aluminum fluoride, cryolite, lithium carbonate, industrial silicon, magnesium, titanium agents, cathode carbon materials (including the cathode end of the block, the lateral horn and paste), a total of 12 species.

4.2 A class of materials procurement and acceptance requirements attached.

Cymco Technologies, LLC
Innovative Solution
www.cymcotechnologiesllc.com

909 E. Orchard Street
Mundelein, IL 60060, USA
224-475-0196 (O) 224-475-0372 (Fax)

Alumina

Quality requirements:

- (1) reference standard GB / T 24487-2009 "alumina".
- (2) chemical composition in accordance with Table 1, AO-1, AO-2 grades.

Table 1 The chemical composition of alumina

Brand Name	Chemical composition (wt%) /%				
	Al ₂ O ₃ (>%)	impurity content (<%)			
		SiO ₂	Fe ₂ O ₃	Na ₂ O	LOI
AO-1	98.6	0.02	0.02	0.50	1.0
AO-2	98.5	0.04	0.02	0.60	1.0

(3) incoming inspection: the way of sampling. Imported alumina boat for a number of domestic alumina contract batches for a group, into the plant, the material supply notify the Quality Management Branch sampling by the Quality Management Division, each batch of the two samples sent to certified laboratory analysis. Analysis of the data entry system. Analysis project: SiO₂ and Fe₂O₃, Na₂O and burning loss of ZnO and TiO₂ V₂O₅. ZnO, TiO₂, V₂O₅ as the quality of judgment indicators. If unusual circumstances, according to the need to increase the sampling frequency.

(4) Quality Management Division conducted to determine chemical composition in Table 1 failed open "non-conforming product report card" to send the marketing department. Marketing department in consultation with the supply-side processing, handling concessions for receiving, returns, price cuts. "Non-conforming product report card" saved by the marketing department.

(5) The supplier shall be inspected by the requirements of GB / T 24487-2009 "alumina" and provide the certificate of the quality of each batch, the conventional supply-side half-yearly one-trace elements (ZnO, TiO₂, V₂O₅, MnO) analysis reports, marketing batch quality certificates, trace element analysis report in a timely manner is passed to the Quality Management Division.

Petroleum coke

Quality requirements:

- (1) reference SH 0527-92 "delayed petroleum coke.
- (2) quality indicators in line with the requirements of Table 2.

Table 2 petroleum coke quality indicators

Items	Name	Unit	Specification (wt%)
1	High sulfur coke, sulfur content	%	≤5.5
2	low-sulfur coke sulfur content	%	≤2.0
3	Volatile	%	≤16
4	Ash	%	≤0.8
5	Moisture	%	≤3.0 (no rejection, such as exceeding the prescribed water, the excess part of the amount of water charged to the total amount of coke.)

(3) into the plant test: using the sampling method. Each factory to 1-15 a train wagon for a number of petroleum coke into the plant, the notification by the Department of Materials Supply Quality Management Section, sample sent to the clinical laboratory analysis, analyzing data in a timely manner into the system. Analysis of items: sulfur content, volatile matter, ash, fixed carbon, and water (Table 2 water), analysis of water. If unusual circumstances, according to the need to increase the sampling frequency.

(4) Quality Management Division to determine quality indicators in Table 2, failed to open, according to the "non-conforming product report card" to send the material supply and material supply department in consultation with the supply-side processing, handling concessions receiving, returns, price cuts, etc. . "Non-conforming product report card" by the Ministry of the supply of materials saved.

(5) The supplier shall SH 0527-92 "delayed petroleum coke" test, and provide the quality certificate for each batch of material supply department in a timely manner per batch quality certificates passed to the Quality Management Division.

Modified Bitumen (Pitch)

Quality requirements:

(1) reference standard YB / T 5194-2003 "modified pitch.

(2) quality indicators should be consistent with the two products and the above provisions, in Table 3.

Table 3 modified bitumen quality indicators

Index name	Softing Point	Toluene Insoluble	Quinoline Insoluble	β -Resin	Coking Value	Ash	Moisture
Grade	°C	%	%	%	%	%	%
First Grade	108~114	28~32	8~12 or 6~10	≥ 18	≥ 56	≤ 0.25	≤ 5
Second Grade	105~120	26~34	6~15	≥ 16	≥ 54	≤ 0.30	≤ 5

(3) Into the plant test: using the sampling method. Each factory to 1-5 train skin for a group (motor transport for the group of less than 200 tons), modified bitumen into the plant, from material supply Quality Management Section of sampling send clinical laboratory analysis. Analysis of the data entry system. Analysis project: softening point, toluene insolubles, quinoline insoluble, β -resin, coking value, ash content, moisture. If unusual circumstances, according to the need to increase the sampling frequency.

(4) In Table 3, water is not as assessment indicators, such as more than deducting the weight of the portion in excess specified in Table 3.

(5) Quality Management Division to determine quality indicators in Table 3, failed to open, according to the "non-conforming product report card" to send the material supply and material supply department in consultation with the supply-side processing, handling concessions receiving, returns, price cuts, etc. . "Non-conforming product report card" by the Ministry of the supply of materials saved.

(6) The supplier shall YB / T 5194-2003 "modified pitch" test, and provide quality certificate for each batch or product inspection analysis reports, material supply department in a timely manner the quality of each batch certificate is passed to the Quality Management Division.

Heavy oil

Quality requirements:

(1) quality indicators should be consistent with the provisions of Table 4.

Table 4 Quality Index

Items	Unit	First Grade	Second Grade
Kinematic viscosity (50 ° C)	mm ² /s	≤180	≤180
Flash point (open) °C	°C	≥120	≥120
Pour Point ° C	°C	≤30	≤30
Moisture	%	≤1	≤1
Mechanical impurities	%	≤1.5	≤1.5
Sulfur content	%	≤3.5	≤3.5
Ash content (m / m)	%	≤0.1	≤0.1
Carbon residue	%	≤15	≤15
Density (20 °C)	kg/m ³	≤990	≤990
Calorific value	MJ/kg	≥42	≥40

(2) the supplier to provide the certificate of the quality of each consignment or product inspection and analysis by the material supply is passed to the Quality Management Division.

(3) into the plant test: using the sampling method. Monthly sampling of a sampling of the Quality Management Division to send clinical laboratory analysis, analysis of the data entry system. Analysis Project: flash point, heating value. If unusual circumstances, according to the need to increase the sampling frequency.

(4) quality management quality indicators in Table 4 verify that the product quality certificate or test analysis report, failed open, according to the non-conforming product report card "to send the material supply, processing material supply department in consultation with the supply-side approach concessions for receiving, returns, price cuts and so on. "Non-conforming product report card" by the Ministry of the supply of materials saved.

The procurement and acceptance requirements: Quality Management Division (01,02), material supply, marketing (03) (04), laboratory (05) Production Technology Division (06), Carbon Plant (07), alloy plant (08), the electrolysis plant (09) Electrolytic Plant (10), motor Department of Energy (11), built factory brackets (12) for the distribution

Cymco Technologies, LLC
Innovative Solution
www.cymcotechnologiesllc.com

909 E. Orchard Street
Mundelein, IL 60060, USA
224-475-0196 (O) 224-475-0372 (Fax)