



KUDREMUKH

KIOCL Limited

(Formerly Kudremukh Iron Ore Company Limited)

(A Government of India Enterprise)

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REQUEST FOR EXPRESSION OF INTEREST (EOI) FOR SUPPLY OF FILTER CLOTHS FOR HORIZONTAL PRESSURE FILTERS FOR FILTERING HEMATITE IRON ORE

The Country's prestigious 100% export oriented unit and Mini Ratna Company, KIOCL Limited (KIOCL) has its Pelletisation Complex at Mangalore, coastal city of Karnataka and is engaged in the business of manufacturing and supply of high quality Iron Ore Oxide Pellets for international and domestic market.

At our Filtration Plant located at Mangalore, filter cloths of size 1.7 x 148 Meter are used in Horizontal Pressure Filters (Tower type - LAROX PF 156/156 M1 60 Iron ore) supplied by M/s Outotec Oy, Finland (formerly LAROX) for filtering Hematite Iron Ore.

KIOCL invites Expression of Interest from reputed Indigenous manufacturers or from their authorized representative for supply of suitable filter cloth for Horizontal Pressure Filter to assess its performance on plant scale basis. The name of the firm shall be considered to include in the Purchase Dept. Vendor list after conducting plant trial test of filter cloth and performance found satisfactory.

A. Indicative properties of Filter cloth to be supplied by the interested parties for conducting Plant Trial Test are as under :

Filter fabric Type	Polyester / Polypropylene / Polyamide / Nylon or Equivalent with Plastic Re-inforcement
Finish	Non Elastic
Required minimum filtration rate	45-60 DMT per hour at filter feed density of 1.85 gm/cc (60% Solids)
Application	Filtering Hematite Iron Ore Slurry

Note : Please note the Filter Fabric type mentioned above is only indicative and parties can choose their own fabric composition.

B. Prevailing Operating Parameters of filter cloth used in Horizontal Pressure Filter, Physical Properties and Chemical Analysis of Iron Ore processed are as under :

PREVAILING OPERATING PARAMETERS OF FILTER CLOTH

1. Pressure Filter Make : Tower type LAROX PF 156/156 M1 60
2. Type of Operation : Iron Ore Slurry Filtration
3. Size of the Filter Cloth
 - a) Length : 148 m
 - b) Width : 1.7 m
 - c) Thickness : 1.5-2.0 mm
4. Number of Pressure Filters : 3 No
5. Production rate of filter cake : Minimum 45-60 DMT per hour per Filter
6. Effective Area (Sq. Metre) per Filter : 156
7. Operating Pressure : Atmosphere Pressure
9. Filter Cycle Time : 10 to 15 min
10. Required Moisture in the filter cake : 8% to 9.5%
after filtration
11. Pressing air pressure shall be in the range of 10 to 13 bar and the duration shall be 100 to 150 seconds.
Drying air pressure 8 to 13 bar and the duration shall be 100 to 150 seconds.
12. Average cake thickness of 10 to 25 mm is to be maintained.
Note : High thickness cake should not to be effect the life of the filter cloth.
13. Weight of the cake: Bulk density: 2.5
14. Filtrate solids should not be more than 1%
15. The filter cake should not stick to the filter cloth.
16. Pressure in the filtrate system: 7 to 9 bar
17. Maximum filtration operating temperature : Ambient (35 max)
18. Seam Hook : The cloth is made endless by clipper type seam joint. Cloth ends should be suitably prepared for fixing zip.

FEED MATERIAL CHARACTERISTICS OF HAEMATIRE IRON ORE SLURRY

Sl.No.	SIZE FRACTION	RANGE %
1	+ 0.5 mm	0.5% TO 1%
2	+65#	7% TO 12%
3	+100#	8% TO 12%
4	+325#	25% TO 40%
5	-325#	40% TO 50%
6	PULP DENSITY	1.85 TO 2.2 Gm/cc
7	% SOLIDS	60% TO 70%

CHEMICAL ANALYSIS OF IRON ORE SLURRY

Sl.No.	ELEMENT	RANGE %
1	Fe	60% TO 65%
2	SiO ₂	3.5% TO 5.5%
3	Al ₂ O ₃	1.5% TO 3.0%
5	LOI	1% TO 2.5%
6	BLAINE	1600 TO 2200 Sq.CM /GM
7	pH of Slurry	6.5 to 8

FILTER CLOTHS FUNCTION IN THE PRESSURE FILTERS

The Iron Ore slurry to be pumped into the filter plate pack in each filter chamber. The filtrate flows through cloth in filtrate collection area. During the filtration, the plate pack is pressed together and when opened, the cake shall be made to discharge. The **single endless filter cloth** zigzag between the filter plates which should give the advantage of better filter cake formed on either side of the cloth.

Filter cloth should have back flush arrangement to remove any particles adhering to it or lodged with plate pack from the previous filtration cycle. Thus the cloth should transport the cake of the filter and also cloth will be washed on both sides with high pressure water sprays. When the filter plates are open and closed, the tension of the filter cloth will be maintained. Thus the total operation of the filtration cycle shall be mainly, filtration, pressing, drying and finally the cake discharge from the filter unit. The system shall be operated by its own stand alone PLC hardware and interlocked in such a way, the system shall go to a fail safe mode operation in case of power outages or any malfunction of the system inputs and total operation shall be under all electrical /mechanical operational safety standards of protection.

C. VENDOR SELECTION PROCESS

These phases are described in greater detail below.

1) Site Inspection / Selection of filter cloth :

Before supply of filter cloth for plant trial test, the intending parties must satisfy themselves fully the site condition for which materials and services are to be supplied. Supplier shall carefully examine all the information herein included and shall fully acquaint themselves with all existing conditions, limitation and official regulations at KIOCL's work site. No claim what-so-ever shall be entertained on the ground of lack of information of site conditions and / or the conditions prevailing in the site area.

You shall depute your representative(s) to our Mangalore Plant to study the actual flow sheet of a filtration process, to understand the prevailing operating conditions of our plant and also to collect dimensional details of filter cloth required for horizontal pressure filter. Upon thorough study of our requirement, you can select suitable filter cloth for our plant applications. All cost of this visit is to your account.

For the purpose of preliminary study, you are requested to contact our Joint General Manager (PF) at Mangalore at the following address:

Sri. Bharathraj Alva
Joint General Manager (PF)
KIOCL Limited,
Panambur, MANGALORE – 575 010

Tel : (0091) (824) 2407917
Mobile : 09449871533
FAX : (0091) (824) 2407422

2) Leaf filtration Test :

Interested parties shall supply one piece of each variety of filter cloth fabric of 2' x 2' size along with its leaf test results on free of cost basis. Parties should indicate the brand / style number of each varieties of filter fabrics sent along with its detailed specification.

3) Plant Trial Test of Filter Cloths

Based on leaf filtration test results and party / parties recommendation, the party / parties concerned shall be intimated to quote for supply of One No. of filter cloth on trial order basis subject to the following conditions :

- a) The filter cloth should be supplied on Door delivery to Stores, KIOCL, Mangalore basis.
- b) Offered price shall be lesser than or equal to our last purchase price for the offer to be considered. In case offered price is on higher side, party / parties may be asked to match our last purchase price.
- c) The filter cloth supplied shall be guaranteed for minimum 3,500 cycles of operation, taking into consideration the prevailing plant operating conditions at KIOCL, Mangalore or serve for 24 months from the date of supply whichever is earlier.
- d) Payment will be released on pro-rata basis, based on performance as per (c) above of filter cloths.

4) Capacity Assessment :

Capacity assessment of parties, whose performance in the Plant trial test is found satisfactory, shall be carried-out by a team of KIOCL officers by visiting the manufacturing facilities and or otherwise verifying requisite details, records / documents furnished by them. Only those parties who are capacity-wise found suitable will be considered for registration as approved supplier for Filter Cloths for Horizontal Pressure Filters.

D. Interested firms may furnish their responses to Expression of Interest at the following address :

Mr.B ESWARAI AH
Asst. Manager (Purchase)
KIOCL Limited, II Block,
Koramangala, BANGALORE – 560 034
e-mail:bpurchase@kudreore.com
Phone:(080) 25532158 Ext:371
FAX : (080) 25532153

E. After successful plant trial test of supplied filter cloth, parties may collect KIOCL's Form for Application for Vendor Registration from Asst. Manager (Purchase) at the above address or download the same from our website : <http://www.kiocltd.com>

F. The process under this EOI shall be perpetual and open for the vendors for submission of their application for one year period from the date of issue of EOI.

G.SPECIAL NOTE :

- a) Plant scale trial test of filter cloth shall be conducted to assess the performance of filter cloths in the Horizontal Pressure Filters for the purpose of inclusion in the Vendor list of KIOCL after capacity assessment. As such, KIOCL does not guarantee for placement of Purchase Orders based on Leaf test results only.
- b) Tender enquiries will be issued by KIOCL only to those parties included in the Vendor list and purchase order for future requirement shall be based on the competitiveness of tenders received and compliance with conditions stipulated in the tender documents issued from time to time.

Yours faithfully,
For KIOCL LIMITED

(B ESWARAI AH)
Asst. Manager (Purchase)