



TENDER DOCUMENT

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SCOPE OF WORK FOR THE SUPPLY OF Ceramic Intalox Saddles for Absorption Towers

Tender no:

Revision¹:

1.0 see legend at bottom of page





Revised date: 25/03/2025

NAME	TITLE	Empl. no	SIGNATURE	DATE
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COMPILED - RECOMMENDATION

Anthony Tloubatla	Production Engineer	504694		3 June 2025
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APPROVAL TO PROCEED

Precious Buthelezi	Snr Production Manager	22171		5 June 2025
Charles Mavuso	Snr SHREQ Manager	504688		5 June 2025
Ntsikelelo Lukope	Snr Manager Technical and CI	503496		19/06/2025
Sam Mbuyazi	GM Acid Division	500441		

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1.1. Confidentiality

The Bidder shall not disclose any such information or specification, whether explicit or implied, to any third party without the express written permission of a duly authorized representative of FOSKOR. Any bidder electing not to respond to this Request for Tender (RFT) shall ensure that the original correspondence and / or electronic media are returned to FOSKOR.

1.2. Conditions and Undertaking

The terms set out here are for recording the basis of the principles and topics upon which the parties will be required to reach agreement in concluding on the proposed agreement. It shall not be binding until they are incorporated into a comprehensive formal and final contract agreement signed by both parties.

Tenderers are required to submit full technical and support documentation of their proposed course of action where necessary. The tenderer accepts Foskor's minimum standard in terms of quality and specification. The costs incurred in preparing the tender are for the account of the Tenderer. Foskor (Pty) Ltd will not accept liability for the costs arising out of the delay in the Tender process.

The Tenderer must guarantee the validity of the response to this tender enquiry. Any arithmetical errors in pricing are the Tenderers responsibility. The preferred tenderer will sign a contract, after which they will be governed by the terms and conditions of the contract. If the Tenderer defaults, the Client, Foskor (Pty) Ltd, will have recourse in terms of the conditions as stipulated in the contract.

1.3. Background to Scope of Work

Sulphuric Acid production at Foskor Richards Bay consists of three plants. Two of these plants (A and B plant which produce 1800 MTPD of sulphuric acid) are part of the original design and are jointly referred to as the old section. The new C plant (producing 2650 MTPD) was added in the year 2000.

Sulphuric acid is produced by absorption of SO₃ in a gas medium with 98.5% Sulphuric acid to form more acid. The absorbed SO₃ is a result of a chemical reaction of SO₂ and O₂ in the presence of Vanadium Pentoxide catalyst. There are three absorption towers, Drying, Interpass and Final Absorption Towers. Each tower is a vertical, cylindrical vessel containing ceramic intalox saddles packing. The gas flows upwards through each tower, countercurrent to the acid distributed via distributor trough over the ceramic intalox saddles packing.

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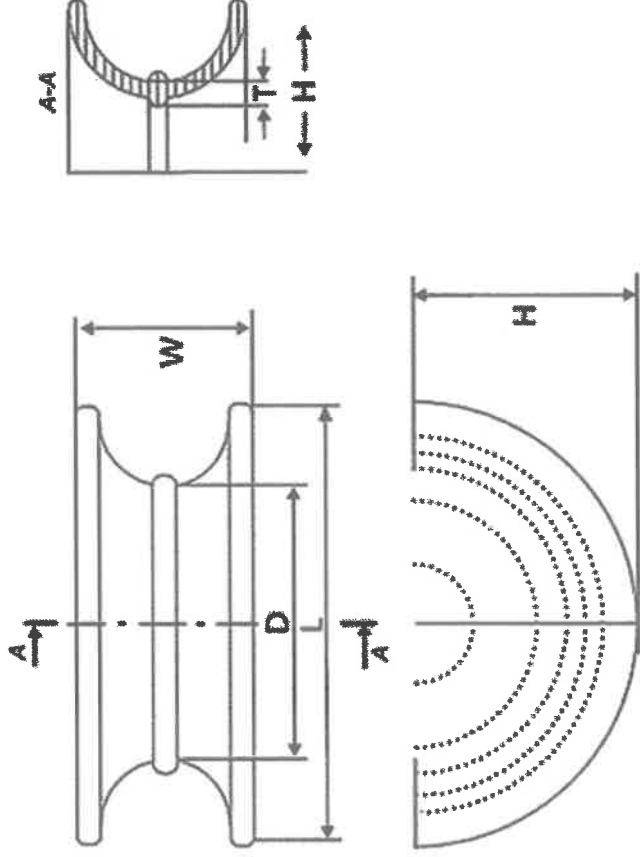
The intalox ceramic saddles are essential for efficiently absorption the SO₃ gas into Sulphuric acid stream, the saddles expand the mass transfer reaction surface area and increase the residential time within the absorption tower so the reaction can be efficient.

Inefficiencies in SO₃ absorption will ultimately lead to inefficient sulphuric acid production process and high production cost, other negative effect would be environmental non-compliance due to high SO₃ gas emission through the stack an visible plume.

1.4. Scope of work

The supplier is to supply and deliver intalox ceramic saddles to Foskor (Pty) Ltd, Acid Division Richards Bay,3900. The saddles are to be utilized during the Shutdown of November 2025, below is the required saddles dimensions specification:

Ceramic Intalox Saddles Specification



Normal Size	Alias (DN)	Diameter of Deck (D/mm)	Outside Diameter (L/mm)	Height(H/mm)	Wall Thickness(T/mm)	Width(W/mm)
3"	76	76±6.0	145±5.0	67±5.0	9±1.5	70±5.0



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Normal Size	Alias (DN)	Diameter of Deck (D/mm)	Outside Diameter (L/mm)	Height(H/mm)	Wall Thickness(T/mm)	Width(W/mm)
1 1/2"	38	38±2.0	60±3.0	35±2	7±1	30±2

PHYSICAL PROPERTIES	
Acid resistance	> 99.6%
Alkali resistance	> 85%
Water absorption	< 0.3%
Porosity	< 1%
Specific gravity	2.3-2.4g/cm ³
Max Operating Temp	> 1100°C
Physical State	Solid Ceramic

1.5 Quantity of Ceramic Saddles

The quantities required are as follows:

3" (76 mm) = 70 m³ (Packing)
1 1/2" (38 mm) = 30 m³ (Spray catchers)

1.6 Off loading Equipment

Foskor Richards Bay takes on the responsibility of offloading the ceramic saddles. The saddles should be packed on a 1 tonne bags and placed on a pallet for easier handling. The packed bags should be loaded on an open truck or an open container. The delivery period will be six weeks after the receipt of the purchase order. It is also a condition that deliveries are only to be made during normal daylight hours at Foskor Richards Bay site.



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1.7 Pre-requisites & Inputs

FOSKOR Richards Bay will supply the successful tenderer with the following:

- Availability of duly authorised personnel to represent FOSKOR for this project
- FOSKOR technical specifications

Below is the pre-requisite for tender awarding:

- FOSKOR shall be supplied with samples, this shall be validated/verified by Responsible Engineer and Technical Team and will be verified upon delivery. **Samples must be submitted with the tenderer's proposal.**

1.8 Document Control and Quality Management

Tenderers are to adhere to FOSKOR's quality management system and specifications incorporated in this Tender Document.

1.9 Company Profile

Tenderers are to submit an extensive portfolio indicating their experience and expertise with reference to supplying of Ceramic Intalox Saddles.

1.10 Tender Adjudication

Proposals will be adjudicated on a mix of the following criteria (in no particular order):

- Technical support
- Track record
- FOSKOR's HDSA Policy. Policy available on request.
- Price

Note: The Tenderer is to note that if they decide on sub-contracting works, no contractual obligation is held between the third company and FOSKOR (Pty) Ltd. FOSKOR's contractual obligation is limited to the Tenderer and the Tenderer is answerable to FOSKOR in the event of default by the Sub-contractor.

1.11 Tender Acceptance

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Note that Foskor is not obligated to accept the lowest tenderer in the tender process.

1.12 Site Visit

No site visit required, but it can be arranged if necessary.

Foskor Contacts:

Technical Enquiries:

Sulphuric Acid Acting Production Engineer: Mr MA Tloubatla (035) 902 3371 or AnthonyT@foskor.co.za

Sulphuric Acid Production Manager: Mrs PK Buthelezi (035) 902 3058 or PreciousB@foskor.co.za

Commercial Enquiries:

Procurement – Mr Lisu Khumalo (035) 902 3278 or Lisuk@foskor.co.za

The tender closing date is the _____. Tenders must be in a sealed envelope, with the tender number and closing date clearly marked on the outside. Tenders must be deposited in the tender box, situated at Foskor Richards Bay's Main reception, before 12h00 of the closing date.





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Bill of Quantities

ELEMENT	UNIT	QUANTITY	PRICE PER UNIT	TOTAL COST
1. Ceramic Saddles				
1.1 *	76 mm	70 m3		
1.2	38 mm	30 m3		
1.3				
2. Transport				
2.1	76 mm	70 m3		
2.2	38 mm	30 m3		
2.3				
3. Other				
3.1				
3.2				
3.3				

*Provide a breakdown of each element

END OF SCOPE OF WORK





Signed with Impression - Chain of Custody

Signature Request

Signature Request ID: f51f55b5-946e-489f-ba95-392b815f15d1 Timestamp: 2025-06-03 14:43:46 GMT
Signee Name: Anthony Tloubatla Sender Name: Anthony Tloubatla
Request Type: WebSigning Request Status: WEBVIEWER SIGNED

Original Document

Document Name: SOWIntalox Ceramic Saddles C Plant Shut 2025_003.pdf Document Size: 299.0 KB

Email Evidence

Signee Email: anthonyt@foskor.co.za Email Subject: Not available in Silent Mode
Email Sent Timestamp: Not available in Silent Mode Email Opened Timestamp: Not available in Silent Mode

Web Evidence

Signee IP Address: 41.21.226.206 Request Timestamp: 2025-06-03 14:39:55 GMT
Signee GPS (if shared): ZA: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/136.0.0.0 Safari/537.36 Edg/136.0.0.0 Terms Accepted Timestamp: 2025-06-03 14:40:13 GMT

Annotations and Modifications

Signature Count: 1 Form Fields Filled Count: 0
Text Annotation Count: 1 Initial All Pages Count: 0
Single Initial Count: 0

Signing Evidence

Signee Mobile: +27733566253 Sign Type: WebSigning
Security Challenge: NONE Part of Workflow: NONE

Chain Of Custody Generation

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Signed with Impression - Chain of Custody



Signature Request

Signature Request ID: b770fa3b-4800-4353-be90-d533ce236ba1 Timestamp: 2025-06-05 05:39:42 GMT

Signee Name: Mrs precious Buthelezi Sender Name: Anthony Tloubatla

Request Type: WebSigning Request Status: WEBVIEWER SIGNED

Original Document

Document Name: SOWIntalox Ceramic Saddles C Plant Shut 2025_ 003.pdf Document Size: 427.9 KB

Email Evidence

Signee Email: preciousb@foskor.co.za Email Subject: A document from Anthony Tloubatla is ready for signature

Email Sent Timestamp: 2025-06-03T14:48:30.306172 Email Opened Timestamp: Not available in Silent Mode

Web Evidence

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Single Initial Count: 0

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Signed with Impression - Chain of Custody

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Request Type:	WebSigning	Request Status:	WEBVIEWER SIGNED

Original Document

Document Name:	SOWIntalox Ceramic Saddles C Plant Shut 2025_003.pdf	Document Size:	466.0 KB
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Email Evidence

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Email Sent Timestamp:	2025-06-05T05:39:48.937888	Email Opened Timestamp:	Not available in Silent Mode

Web Evidence

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