

Tender no:

SCOPE OF WORK FOR THE SUPPLY OF Ceramic balls for catalytic converter

Tender no:

Revision¹: **1.0** see legend at bottom of page

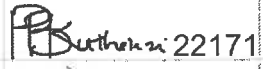

Revised date: 25/03/2025

NAME	TITLE	Empl. no	SIGNATURE	DATE
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COMPILED - RECOMMENDATION

Anthony Tloubatla	Production Engineer	504694		23 May 2025
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APPROVAL TO PROCEED

Precious Buthelezi	Snr Production Manager	22171		23 May 2025
Charles Mavuso	Snr SHREQ Manager	504688		26 May 2025
Ntsikelelo Lukope	Snr Manager Technical and CI	503496		20/06/2025
Sam Mbuyazi	GM Acid Division	500441		20/06/2025



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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 1800t/day sulphuric acid) are part of the original design and are jointly referred to as the old section. They are identical. The new C plant (producing 3000t/day) was added in the year 2000.

Sulphuric acid is produced by absorption of SO_3 in a gas medium with 98.5% Sulphuric acid to form more acid. The absorbed SO_3 is a result of a chemical reaction of SO_2 and O_2 in the presence of Vanadium Pentoxide catalyst and is covered with ceramic balls. As such, there is a need to screen catalyst with ceramic balls and complement losses with new ceramic balls.



1.4. Scope of Work

The goal of this tender is as follows:

Supply Ceramic balls / marbles. Ceramic balls slow down the high gas speed allows even distribution of gas throughout the catalyst bed and protects the catalyst beds from breaking. This serves to increase surface area, and to improve molecular contact within the converter. This ceramic ball layer is spread at the top and bottom of the catalyst beds in all the passes of the converter. This material should be made available for the converter in the Sulphuric Acid C-Plant shutdown commencing in November 2025. The following specifications apply to the Foskor, Richards Bay site:

Certificate of Analysis

PRODUCT: Inert Ceramic Ball

INDEX	UNIT	Value
SIZE	MM	25
Al ₂ O ₃	%	17.89
SiO ₂	%	76.11
Fe ₂ O ₃	%	0.98
CaO	%	0.42
MgO	%	0.45
TiO ₂	%	0.16
K ₂ O	%	3.25
Na ₂ O	%	0.58
Particle Density	G/cm ³	2.25
Bulk density	kg/m ³	1360
Max. Operating Temp.	°C	980
Water Absorption	%	0.17
Crush Strength	KG	1820



1.5 Quantity of Ceramic balls /marbles

The quantities required as follows:

20 000 litres to be used for makeup of losses for C-Plant.

1.6 Off loading Equipment

Foskor Richards Bay takes on the responsibility of offloading the ceramic balls/marbles. The ceramic balls should be packed on a 1ton bags and placed on a pallet for easier handling. The packed bags should be loaded on an open truck. 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.

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

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 ceramic balls.

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

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.

Technical Enquiries:

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

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

Commercial Enquiries:

Procurement – 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.



Tender no:

Bill of Quantities

ELEMENT	UNIT	QUANTITY	PRICE PER UNIT	TOTAL COST
1. Ceramic balls				
1.1	litres	20 000		
1.2				
1.3				
2. Transport				
2.1				
2.2				
2.3				
3. Other				
3.1				
3.2				
3.3				

*Provide a breakdown of each element

END OF SCOPE





Signed with Impression - Chain of Custody



Signature Request

Signature Request ID:	849030a4-b51c-42ea-9528-4fe8d6f683d1	Timestamp:	2025-05-23 11:33:26 GMT
Signee Name:	Anthony Tloubatla	Sender Name:	Anthony Tloubatla
Request Type:	WebSigning	Request Status:	WEBVIEWER SIGNED

Original Document

Document Name:	SOW for supply of ceramic balls 2025 Final .pdf	Document Size:	248.6 KB
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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:	2025-05-23 11:32:52 GMT
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Annotations and Modifications

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Text Annotation Count:	1	Initial All Pages Count:	0
Single Initial Count:	0		

Signing Evidence

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Security Challenge:	NONE	Part of Workflow:	NONE

Chain Of Custody Generation

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Signee Name:	Mrs precious Buthelezi	Sender Name:	Anthony Tloubatla
Request Type:	WebSigning	Request Status:	WEBVIEWER SIGNED

Original Document

Document Name:	SOW for supply of ceramic balls 2025 Final_.pdf	Document Size:	367.9 KB
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Email Evidence

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Email Sent Timestamp:	2025-05-23T11:40:40.593204	Email Opened Timestamp:	Not available in Silent Mode

Web Evidence

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Signature Request

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Signee Name:	Mr Charles Mavuso	Sender Name:	Anthony Tloubatla
Request Type:	WebSigning	Request Status:	WEBVIEWER SIGNED

Original Document

Document Name:	SOW for supply of ceramic balls 2025 Final_.pdf	Document Size:	405.7 KB
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Email Evidence

Signee Email:	charlesmav@foskor.co.za	Email Subject:	A document from Anthony Tloubatla is ready for signature
Email Sent Timestamp:	2025-05-23T12:37:32.729112	Email Opened Timestamp:	Not available in Silent Mode

Web Evidence

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Annotations and Modifications

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Text Annotation Count:	1	Initial All Pages Count:	0
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Signing Evidence

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