



# Engineering Procedure

SAEP-1200

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Qualification Procedures for Protective  
Coatings and Abrasive Blasting Materials

Document Responsibility: Paint and Coatings Standards Committee

## Contents

1	Scope .....	2
2	Conflicts and Deviations .....	2
3	Applicable Documents .....	2
4	Definitions and Abbreviations .....	4
5	Qualification Process .....	4
6	Approval .....	7
7	Adding to Material Master .....	7
	Revision Summary .....	8
	Attachment I - Form-A: Protective Coating and Abrasive Blasting Material Qualification Request Form .....	9
	Attachment II - Qualification Process Flowchart ....	10

## 1 Scope

This procedure describes the process for qualifying and approving protective coatings and abrasive blasting materials. The procedure does not cover the qualification and approval of decorative paints.

## 2 Conflicts and Deviations

- 2.1 Any conflict between this procedure and other applicable Saudi Aramco Engineering Procedures (SAEPs), Saudi Aramco Engineering Standards (SAESs), Saudi Aramco Materials System Specifications (SAMSSs), Saudi Aramco Standard Drawings (SASDs), or industry standards, codes, and forms shall be resolved in writing through the Manager, Consulting Services Department of Saudi Aramco, Dhahran.
- 2.2 Direct all requests to deviate from this procedure in writing in accordance with [SAEP-302](#) to the Manager, Consulting Services Department of Saudi Aramco, Dhahran.
- 2.3 Direct all requests for interpretation of this procedure in writing to the chairman of the Paints and Coatings Standards Committee.

## 3 Applicable Documents

The requirements contained in the following documents apply to the extent specified in this procedure.

### 3.1 Saudi Aramco References

Saudi Aramco Engineering Procedure

[SAEP-302](#)

*Instructions for Obtaining a Waiver of a Mandatory Saudi Aramco Engineering Requirement*

Saudi Aramco Engineering Standards

[SAES-H-001](#)

*Coating Selection and Application Requirements for Industrial Plants and Equipment*

[SAES-H-002](#)

*Internal and External Coatings for Steel Pipelines and Piping*

[SAES-H-002V](#)

*Approved Saudi Aramco Data Sheets for the Pipeline and Piping Coatings*

[SAES-H-003](#)

*Protective Coatings for Industrial Concrete Structures*

[SAES-H-004](#) *Protective Coating Selection and Application Requirements for Offshore Structures and Facilities*

[SAES-H-101V](#) *Approved Saudi Aramco Data Sheets - Paints and Coatings*

#### Saudi Aramco Materials System Specifications

[09-SAMSS-021](#) *Qualification Requirements for Alkyd Enamel Coating System (APCS-6)*

[09-SAMSS-035](#) *Qualification Requirements for Aluminum-Pigmented Alkyd Coating System (APCS-4)*

[09-SAMSS-067](#) *Qualification Requirements for Internal Coating Systems Used in Immersion Services*

[09-SAMSS-069](#) *Qualification Requirements for Epoxy Coatings for Atmospheric Service*

[09-SAMSS-070](#) *Qualification Requirements for Splash Zone Epoxy Compound (APCS-19A) and (APCS-19B)*

[09-SAMSS-071](#) *Qualification Requirements for Inorganic Zinc Primer (APCS-17A) and (APCS-17B)*

[09-SAMSS-087](#) *Qualification Requirements for Epoxy Coatings for Application on Damp Steel Surfaces*

[09-SAMSS-089](#) *Shop-Applied External Fusion Bonded Epoxy Coatings for Steel Line Pipes*

[09-SAMSS-091](#) *Qualification Requirements for Shop-Applied Internal FBE Coatings*

[09-SAMSS-101](#) *Qualification Requirements for Stand Alone Self-Priming Epoxy Mastic Coatings including Top Coating with Aliphatic Polyurethane*

[09-SAMSS-103](#) *Qualification Requirements for High Temperature External Coatings in Atmospheric Services (APCS-11A) and (APCS-11B)*

[09-SAMSS-106](#) *Epoxy Coating of Steel Reinforcing Bars*

[09-SAMSS-107](#) *Qualification Requirements and Application of Composite Fluoropolymer/Ceramic Coatings to Fasteners*

[09-SAMSS-113](#) *The Requirements of External Liquid Coatings for Buried Pipelines and Piping (APCS-113A)*

Saudi Aramco Form and Data Sheet

[SA-1149](#)

*Proposal for Material Cataloging*

3.2 Industry Codes and Standards

International Organization for Standardization

[ISO 11126](#)

*Preparation of Steel Substrates before Application of  
 Paints and Related Products - Specifications for  
 Non-metallic Blast-Cleaning Abrasives*

[ISO 11127](#)

*Preparation of Steel Substrates before Application of  
 Paints and Related Products - Test Methods for  
 Non-metallic Blast-Cleaning Abrasives*

**4 Definitions and Abbreviations**

**9CAT#** Catalogue Material Number

**9COM#** Commodity Material Number

**APCS** Approved Protective Coating System

**CSD** Consulting Services Department

**ESA** Engineering Service Agreement

**ID&SSD** Industrial Development & Strategic Supply Department

**MSDS** Material Safety Data Sheet

**PDS/TDS** Product Data Sheet/Technical Data Sheet

**R&DC** Research and Development Center

**Responsible Unit Supervisor (RUS):** The Engineering Consultant of Nonmetallic, CP & Coatings Group who is designated by the Manager, Consulting Services Department.

**SAMSS** Saudi Aramco Materials System Specification

**5 Qualification Process**

5.1 Product Proposal Submission by Vendor

Vendor shall submit to ID&SSD in Dhahran in writing their product proposal for qualification together with relevant product information and supporting documents. Justification shall be provided in the proposal.

## 5.2 Need Assessment by ID&SSD

ID&SSD shall review the product proposal and determine the need for this. They can delegate the need assessment to concerned Department/s if required. Once need is established and justified, ID&SSD shall request technical evaluation of the proposed product to CSD.

## 5.3 Technical Evaluation by CSD

A coating engineer shall be assigned by RUS or Coating Team Leader to process the request once received from ID&SSD. The technical evaluation shall be conducted according to the following phases.

### 5.3.1 Document Review Phase

5.3.1.1 The assigned coating engineer shall obtain from the vendor the following documents for each proposed product.

- PDS/TDS
- MSDS
- Product Applications Reference List
- Product Certificate/s, if available
- In-house R&DC Tests Report/s
- Tests Report/s from any 3<sup>rd</sup> Party Laboratories, if available

5.3.1.2 The coating engineer shall review the vendor's submitted documents and determine the specific SAMSS and APCS applicable to the proposed coating product. Abrasive blasting materials shall be qualified as per the requirements of ISO 11126 and ISO 11127 series whichever are applicable.

5.3.1.3 Prior to starting the qualification process, Form-A in [Attachment I](#) shall be filled by the coating engineer.

### 5.3.2 Approved 3<sup>rd</sup> Party Laboratory Tests Phase

5.3.2.1 Once Form A is filled-up, the coating engineer shall provide vendor the specific SAMSS that shall be used as reference for 3<sup>rd</sup> party laboratory tests. If no SAMSS is relevant, coating engineer shall develop tests program for the 3<sup>rd</sup> party laboratory. Vendor shall be advised to request tests protocol and quotation only from Saudi Aramco

approved 3<sup>rd</sup> party laboratories. The list of approved laboratories shall be provided by the coating engineer.

5.3.2.2 Vendor shall contact their chosen approved 3<sup>rd</sup> party laboratory and request the tests protocol and quotation and shall copy coating engineer in their communication.

5.3.2.3 Approved 3<sup>rd</sup> party laboratory shall prepare the tests protocol and quotation requested by the vendor in reference to the specific SAMSS or developed tests program provided to them. Document reference number, revision number, and issue date shall be provided to each tests protocol that will be submitted to the coating engineer. The tests protocol shall be submitted only to the coating engineer while the quotation shall be sent only to the vendor.

5.3.2.4 The coating engineer shall review the 3<sup>rd</sup> party laboratory tests protocol to check compliance to the concerned SAMSS or developed tests program and shall advise required revisions if any, and if there are new operating/service conditions that must be considered in the evaluation. The 3<sup>rd</sup> party laboratory shall not proceed with any test until the tests protocol is approved by the coating engineer or any member of CSD-Coating Team if delegated.

5.3.2.5 The coating engineer shall inform the 3<sup>rd</sup> party laboratory regarding the approval of their tests protocol once finalized. They will also be advised to notify vendor about the approval of the tests protocol and to provide the committed completion date for all tests and submission of the tests report. The 3<sup>rd</sup> party laboratory shall be responsible in obtaining all required materials from the vendor for the different tests.

5.3.2.6 The 3<sup>rd</sup> party laboratory shall submit the final tests report only to the coating engineer. Vendor shall not be provided a copy of the tests report unless request is justified to and approved by RUS or Coating Team Leader.

### 5.3.3 Saudi Aramco R&DC Laboratory Tests Phase

Based on the review of the tests results and final tests report submitted by the 3<sup>rd</sup> party laboratory, CSD coating engineer shall also request Saudi Aramco's R&DC to conduct separate tests according to the approved tests protocol to verify the tests results obtained by the 3<sup>rd</sup>

party laboratory. This phase may be waived if all the 3<sup>rd</sup> party laboratory tests results were found satisfactorily during review.

#### 5.3.4 Field Trial Phase

5.3.4.1 Field trial shall be conducted after successful completion of the 3<sup>rd</sup> party laboratory and Saudi Aramco R&DC tests. The trial can also be conducted simultaneously with the 3<sup>rd</sup> party laboratory and/or R&DC tests phase if the field trial tests results are urgently required.

5.3.4.2 The coating engineer shall conduct the field trial for the coating in coordination with a field partner through an ESA. They shall select the specific date, time, and location for the trial coating application and item/s to be coated. Application shall be done only by approved applicators of Saudi Aramco and the concerned coating manufacturer. The minimum field trial duration is one year for coating.

5.3.4.3 For abrasive blasting materials, the field trial shall be conducted in coordination with an approved shop coating applicator at a specified date and time. The field trial for abrasives can be completed in one day.

## 6 Approval

Product shall only be approved after passing all phases of the technical evaluation. Failure in one phase shall require requalification. Approval section of Form-A shall only be completed after successful completion of the approved 3<sup>rd</sup> party lab and R&DC lab tests, and field trial.

## 7 Adding to Material Master

### 7.1 Request to add a product to existing 9CAT

After completion of the qualification process and approval of the product, CSD coating engineer shall prepare and address a letter to the Materials Standardization Unit. The letter shall be signed by the RUS and shall include the following:

- a) Form-A ([Attachment I](#))
- b) Product Data Sheet / Technical Data Sheet
- c) Material Safety Data Sheet
- d) Approved 3<sup>rd</sup> Party Lab Tests Report

- e) R&DC Lab Tests Report, if not waived
- f) Field Trial Report

#### 7.2 Request to create new 9CAT for new product

Upon the completion of the qualification process, CSD coating engineer shall prepare and address a letter to the Materials Standardization Unit. The letter shall be signed by the RUS and shall include the following:

- a) Form A ([Attachment I](#))
- b) Form [SA-1149](#)
- c) Product Data Sheet / Technical Data Sheet
- d) Material Safety Data Sheet
- e) Approved 3<sup>rd</sup> Party Tests Report
- f) R&DC Lab Tests Report, if not waived
- g) Field Trial Report

### Revision Summary

4 September 2011	New Saudi Aramco Engineering Procedure.
7 February 2017	Major revision to change title, remove deleted SAMSSs, identified the parties involved in the qualification process, and defined their respective responsibilities.

Document Responsibility: Paints and Coatings Standards Committee  
 Issue Date: 7 February 2017  
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SAEP-1200  
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## Attachment I

### Form-A: Protective Coating and Abrasive Blasting Material Qualification Request Form

Request Number					
Date					
Lead Engineer					
Supporting Engineer (1)		Supporting Engineer (2)			
<b>Product Information</b>					
Product Type		<input type="checkbox"/> Coating		<input type="checkbox"/> Abrasive	
Product Name					
Vendor Name					
Contact Person & Details					
<b>Available Documents</b>					
1	Product Data Sheet / Technical Data Sheet	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
2	Material Safety Data Sheet (MSDS)	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
3	Product Application Reference List	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
4	Product Certificates	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
5	In-house R&DC Lab Tests Report	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
6	3 <sup>rd</sup> Party Lab Tests Report	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
Relevant SAMSS					
Qualification Request Justification:					
Is field trial required? <input type="checkbox"/> Yes <input type="checkbox"/> No (justification and approval of CSD Manager is required)					
Justification for No field trial:			CSD Manager		Signature
<b>Approval</b>					
Did the product pass Approved 3 <sup>rd</sup> Party lab tests?		<input type="checkbox"/> Yes	<input type="checkbox"/> No		
Did the product pass R&DC lab tests?		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> R&DC lab tests waived	
Did the product pass field trial?		<input type="checkbox"/> Yes	<input type="checkbox"/> No		
<b>Note: The below section shall be completed only after the successful completion of the Approved 3<sup>rd</sup> Party Lab and R&amp;DC Lab tests, and field trial</b>					
Do you need to add product to existing 9CAT?		<input type="checkbox"/> Yes	<input type="checkbox"/> No		
Do you need to create new 9CAT?		<input type="checkbox"/> Yes	<input type="checkbox"/> No		
Lead Engineer	Signature	Support Engineer (1)	Signature	Support Engineer (2)	Signature
_____ Approved by: RUS					

**Note:** For electronic copy of Form-A, please contact RUS or the Paints and Coatings Standards Committee Chairman.

**Attachment II**

**Qualification Process Flowchart**



