



# PHARMA DEVILS

## ENGINEERING DEPARTMENT

### STANDARD OPERATING PROCEDURE

<b>Department:</b> Engineering	<b>SOP No.:</b>
<b>Title:</b> Conformity the Quality of Stainless Steel	<b>Effective Date:</b>
<b>Supersedes:</b> Nil	<b>Review Date:</b>
<b>Issue Date:</b>	<b>Page No.:</b>

#### 1.0 OBJECTIVE:

To lay down a procedure for confirming the quality of stainless steel (SS).

#### 2.0 SCOPE

This SOP is applicable to all equipment and accessories, claimed to be SS316 & SS304 type wherever designed.

#### 3.0 RESPONSIBILITY:

Technician / Engineer.

Head of Department – Engineering.

#### 4.0 PROCEDURE:

##### 4.1 Confirmity of quality of SS using 1.5 Volt battery

- 4.1.1 Clean the torch electrodes and surface of the specimen using tissue paper.
- 4.1.2 Pour one droplet of Molybdenum electrolyte solution on the specimen.
- 4.1.3 Place the carbon electrode on the electrolyte droplet and the other electrode on the specimen surface.
- 4.1.4 Switch 'On' the torch and pass the current for few seconds.
- 4.1.5 Check that the indicator light of torch is 'On'.
- 4.1.6 Observe the indicated color of the electrolyte solution.
- 4.1.7 If the color turns to deep red, the material is stainless steel of SS 316 quality.
- 4.1.8 If the red colour disappears within few seconds and electrolyte remains clear or green, the material is stainless steel of SS304 quality.

##### 4.2 Confirmity of quality of SS using 9 Volt battery

- 4.2.1 Clean the electrodes pin and surface of the specimen using tissue paper.
- 4.2.2 Connect the electrodes pin to the 9 Volt battery.
- 4.2.3 Pour one droplet of Molybdenum electrolyte solution on the specimen.



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- 4.2.4 Place the negative electrode pin on the electrolyte droplet and the positive electrode on the specimen surface.
- 4.2.5 Observe the indicated color of the electrolyte solution.
- 4.2.6 If the color turns to deep red, the material is stainless steel of SS 316 quality.
- 4.2.7 If the red colour disappears within few seconds and electrolyte remains clear or green, the material is stainless steel of SS304 quality.

#### **4.3 Precaution**

- 4.3.1 Do not carry out test on hot metal.
- 4.3.2 Keep the electrolyte in a cool place.
- 4.3.3 If the electrolyte is kept in hot place, it will turn turbid; in such case do not use the electrolyte.

#### **5.0 ANNEXURE (S):**

Nil

#### **6.0 REFERENCE (S):**

SOP NO.: Preparation, approval, distribution control, revision and destruction of Standard Operating Procedure (SOP).

#### **7.0 ABBREVIATION (S) / DEFINITION (S) :**

SS: Stainless Steel



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### REVISION CARD

S.No.	REVISION No.	REVISION DATE	DETAILS OF REVISION	REASON (S) FOR REVISION	REFERENCE CHANGE CONTROL No
1	00	----	----	New SOP	----