SUPPLY, DELIVERY AND TESTING OF AWS A5.9 ER309L, ITEM 040500275 STAINLESS STEEL SOLID GMAW/ MAG WIRE FOR ALL DEPOTS, NATIONALLY.

TRANSNET ENGINEERING,

REFERENCE NO: WC_NAT_309L_00

Revision : 01

Date of release: SEPTEMBER 2024

DOCUMENT AMENDMENT RECORD			
Ver	Section	Date	Description of Change
00			First Implementation
01	8. Traceability	03/09/2024	Changed 3.1 to 3.2 batch certificate

Table of Contents

Page no.

DOCUMENT AUTHORITIES

Department Affected	Wagons, Rotating Machines, Wheels, Rolling Stock, Locos, Coaches – Nationally
Effective Date	Sept 2024
Compiled by	Jaco Opperman
Designation	Senior Engineer: Welding Compliance
Signature & Date	03/09/2024
Reviewed by	Naeema Kharsany
Designation	Principal Engineer: Welding Compliance
Signature & Date	03/09/2024

1. INTRODUCTION / SCOPE OF WORK

This specification is for the:

#	TASK	REQUIRED
1	Supply	✓
2	Documentation	✓
3	Testing	✓
4	Training	
5	Commissioning	

#	ITEM	REQUIRED
1	**SUPPLY, DELIVERY AND TESTING OF AWS A5.9 ER309L STAINLESS STEEL, 1.2mm SOLID GMAW/ MAG WIRE FOR ALL TRANSNET DEPOTS, NATIONALLY.**	✓

2. INFORMATION REQUIRED

2.1 Offers will not be considered unless full particulars and sufficient literature are provided at the tendering stage to enable Transnet Engineering Technical Officers the opportunity to assess each technical offer properly.

2.2 As prospective suppliers are considered to be experts in their field, they are obliged to identify any shortcomings, such as omissions or sub-standard requirements, to the completeness of this specification. These must be brought to the attention of Transnet Engineering at tender stage with alternatives to address these shortcomings. However, each offer shall be quoted for separately.

3. GENERAL

3.1 The following regulation and codes must be complied with:-

- The Occupational Health and Safety Act – Act 85 of 1993.

3.2 Where consumables offered complies with the recognized standards of the country of manufacture and not specifically with the standards required by this specification, such consumable will be considered at the **discretion of Welding Compliance Management**. In this case, tenders shall state fully all respects in which the consumable departs from the standard laid down in this specification.

3.3 Any person with the intention of tendering shall ensure that the information below is complied with. The information or requirements below are binding.

4. CONSUMABLE SPECIFICATION

4.1 All consumables offered will comply with the requirements of both standards of AWS/SFA 5.9 and EN ISO 14343-A G 23 12 L.

4.2 The wire diameter shall be 1,2mm.

5. DELIVERY FORM

5.1 Wire should be supplied in accordance with the requirements stipulated in ASME, Section II, Part C, AWS/SFA 5.9, 300mm diameter spools and 15kg weight.

5.2 The cast and helix shall comply with the requirements stipulated in ASME, Section II, Part C, AWS/SFA 5.9

5.3 Packaging and weight shall be in accordance to ASME, Section II, Part C, AWS/SFA 5.9

6. NOMINAL CHEMICAL COMPOSITION

6.1 The wire shall have a nominal composition of:

C%	Mn%	Si%	Cr%	Ni%	Mo%	N%	Other
0.03 max	1 - 2.5	1.0 max	21 - 25	11 - 15	0.5	<0.11	<0.5

7. MECHANICAL PROPERTIES (ALL WELD METAL)

$R_{0.2}$ (MPa)	UTS (MPa)	El %
320 min	510 min	25

Note: Proof and Tensile Strength of the all-weld filler metal sample is expected to comply with the minimum requirements stated. Elongation and impact properties may deviate due to variations in the microstructure.

8. TRACEABILITY

8.1 The consumables shall be supplied with a 3.2 certificate, reflecting the batch number traceable to each individual spool.

8.2 The consumable's DB number shall be provided to Transnet Engineering.

9. TESTING

9.1 Batch testing will be conducted in-house or by the highest ranked bidder during the tendering stage.

10. DEFINITIONS AND ABBERVIATIONS

CLIENT	Transnet or Transnet Engineering, all depots nationally.
GMAW	Semi-Automatic Gas Metal Arc Welding Process. For the purpose of this specification, Metal Inert Gas (MIG) and Metal Active Gas (MAG) welding is covered under this abbreviation.
SUPPLIER	Consumable supplier appointed under this specification document.
MAG/ MIG	Semi-Automatic Metal Active Gas welding process. For the purpose of this specification, Metal Inert Gas (MIG) welding is covered under this abbreviation.