



شرکت ملی گاز ایران

مدیریت پژوهش و فناوری

امور تدوین استانداردها

IGS

Iranian Gas Standards

مشخصات فنی خرید

الکترودهای جوشکاری ، سری ۹۰

Welding Electrodes , Series 90

ت

ابلاغ مصوبه هیأت مدیره

مدیر محترم پژوهش و فناوری و رئیس شورای استاندارد

باسلام،

به استحضار می‌رساند در جلسه ۱۳۹۷ مورخ ۱۳۸۹/۱/۱۵ هیأت مدیره، نامه شماره ک. ۱۶۲۹۷۰/۰۰۰/۹ مورخ ۸۸/۱۲/۲۴ آن مدیریت درمورد تصویب نهایی استانداردها تحت عناوین "الکترودهای جوشکاری سری ۷۰" به شماره استاندارد (1) IGS-M-PL-018، "الکترودهای جوشکاری سری ۸۰" به شماره استاندارد (0) IGS-M-PL-029 و "الکترودهای جوشکاری سری ۹۰" به شماره استاندارد (0) IGS-M-PL-030 مطرح و مورد تصویب قرار گرفت.

ناصر آبگون

دبیر هیأت مدیره



رونوشت: مدیرعامل محترم شرکت ملی گاز ایران و قائم مقام رئیس هیأت مدیره

معاون محترم مدیرعامل

اعضای محترم هیأت مدیره

مشاور محترم مدیرعامل

مدیر محترم توسعه منابع انسانی

مدیر محترم هماهنگی و نظارت بر تولید

مدیرعامل محترم شرکت انتقال گاز ایران

رئیس محترم امور حسابداری داخلی

رئیس محترم امور حقوقی

رئیس محترم امور مجامع

بسم الله الرحمن الرحیم  
تاریخ: ۱۳۸۹/۲/۷  
شماره: ک. ادب. ۰۲۳۶/۰-۱۵۳۵۲

- **FOREWORD**

This standard specification has been technically revised , and up dated , it intended to be mainly used by all divisions of N.I.G.C. and EPC contractors , and has been prepared on interpretation of recognized standards , technical documents , knowledge , backgrounds and experiences in gas industries at national and international levels.

Iranian Gas Standards (IGS) are prepared, reviewed and amended by technical standard committees within NIGC standardization division of research & technology management and submitted to "the standards council of NIGC" for approval.

Iranian Gas Standards (IGS) are subjected to revision, amendment or withdrawal, if required, thus the latest edition of IGS shall be checked / inquired by IGS users.

Any comments from concerned parties or individuals in IGS'S are welcomed.

## Table of content

<b>Element</b>	<b>Page no.</b>
<b>1.0. Scope.</b>	<b>2</b>
<b>2.0. References.</b>	<b>2</b>
<b>2.1.0. Normative references.</b>	<b>2</b>
<b>3.0. Specification for E9010 G electrode.</b>	<b>3</b>
<b>4.0. Specification for E9010 P1 electrode.</b>	<b>4</b>
<b>5.0. Specification for E9018 electrode.</b>	<b>5</b>
<b>6.0.Dimension.</b>	<b>6</b>
<b>7.0.Data sheet.</b>	<b>7</b>

## **1. Scope :**

This standard specification provides NIGC'S requirements for material, manufacturing, inspection , testing and packing of low alloy carbon steel for electrode shielded metal arc welding. In accordance with ANSI/ AWS A5.5 OR BS EN ISO 2560.

## **2.0. References:**

Throughout this standard specification, the following standards & codes are referred to, the edition of these standards & codes those are in effect at the time of issuing of this standard specification.

The applicability of changes in standards & codes that occur after the date of standards that referred shall be mutually agreed upon by the purchaser and supplier and / or manufacturer. The covered electrode for manual arc welding shall meet all requirements of standards specified here in.

### **2.1.Normative references :**

2.1.1.ANSI/AWS A5.5 (2006) : Specification for low-alloy steel electrodes.  
for shielded metal arc welding.

2.1.2. BS EN ISO 2560 (2005) : Welding consumables-covered electrodes  
for manual metal arc welding of non-alloy and fine grain steels classification

### **2.2.Informative references :**

2.2.1. BS EN 499 (1995) : Covered electrode for manual metal arc welding of non-alloy and fine grain steel.

### 3.0. Specification for E-9010-G electrode :

Electrode , low alloy steel ,high tensile , in accordance with AWS A.5.5 OR BS EN ISO 2560 (E 50 4 1Ni Mo C 25 grade),for welding of carbon steel line pipe according to **API 5L up to X80 grade inclusive.**

Electrodes shall be packed in hermetically sealed container With maximum weight of 16 KG and withstanding the related weight during Transportation and storage.

Manufacturer shall submit the relevant certificate concerning the hermetically Seal test which has been carried out according to AWS A5.5 clause 23.

Each container shall be clearly marked with following elements:

- Manufacturer 's name.
- AWS or BS EN ISO classification designation.
- Trade mark.
- Batch /lot no., control or heat no.
- Current range.
- Size.(OD &length)
- Quantity of electrode.
- Net weight.

#### 4.0. Specification for E-9010-P1 electrode :

Electrode , low alloy steel ,high tensile , in accordance with AWS A.5.5 OR B.S EN ISO 2560(E 50 3 1Ni C 25 grade),for welding of carbon steel line pipe according to **API 5L up to X80 grade inclusive.**

Electrodes shall be packed in hermetically sealed container With maximum weight of 16 KG and capable of withstanding the related weight during transportation and storage.

Manufacturer shall submit the relevant certificate concerning the hermetically Seal test which has been carried out according to AWS A5.5. clause 23.

Each container shall be clearly marked with following element :

- Manufacturer 's name.
- AWS or BS EN ISO classification designation.
- Trade mark.
- Batch /lot no., control or heat no.
- Current range.
- Size.(OD &length)
- Quantity of electrode.
- Net weight.

## 5.0. Specification for E-9018 ELECTRODE :

Electrode **low hydrogen** ,low alloy steel ,high tensile ,in accordance with AWS A5.5 or BSEN ISO 2560 (if applicable) , for welding carbon steel line pipe according to **API 5L,up to X80 grade inclusive.**

Electrodes shall be packed in hermetically sealed container with maximum weight of 16 KG capable of withstanding the related weight during transportation and storage.

Manufacturer shall submit the relevant certificate concerning the hermetically seal Test which has been carried out according to AWS A5.5 ,clause 23.

Each container shall be clearly marked with the following elements:

Manufacturer 's name.

-AWS or BS EN ISO classification designation.

-Trade mark.

-Batch /lot no., control or heat no.

-Current range.

-Size.(OD &length)

-Quantity of electrode.

- Net weight.



5. Dimension :

O.D		Length	
IN	MM	IN	MM
1/8	3.25	14	350
5/32	4.00	14	350
3/16	5.00	14-18	350-450
7/32	5.50	14-18	350-450
1/4	6.40	18	450

**7.0 DATA SHEET:**

Electrode designation	Standard	O.D		Length		Container material	Weight	Hermetically sealed
		IN	MM	IN	MM		KG	
								Yes <input type="checkbox"/> No <input type="checkbox"/>
								Yes <input type="checkbox"/> No <input type="checkbox"/>
								Yes <input type="checkbox"/> No <input type="checkbox"/>
								Yes <input type="checkbox"/> No <input type="checkbox"/>
								Yes <input type="checkbox"/> No <input type="checkbox"/>

**This data sheet shall be filled ,signed ,and stamped by the manufacturer.**