CEB STANDARD 088 : 1999

Specification

for

THE MOULDS, WELD METAL AND ACCESSORIES FOR THE EXOTHERMIC WELDING SYSTEM

CEYLON ELECTRICITY BOARD

SRI LANKA

Specification

for

THE MOULDS, WELD METAL AND ACCESSORIES FOR THE EXOTHERMIC WELDING SYSTEM

CEB Standard 088 : 1999

CEYLON ELECTRICITY BOARD

No. 50, Sir Chittampalam A. Gardiner Mawatha, Colombo 2.
Sri Lanka

Telephone: 94-1-430471, 421720 Facsimile: 94-1-430473
E-mail : cebdp@mega.lk

CONTENTS

SPECIFICATION FOR THE MOULDS, WELD METAL AND ACCESSORIES FOR THE EXOTHERMIC WELDING SYSTEM

1.0 SCOPE

This Specification covers Exothermic Welding System to be used for making effective electrical connections between copper earthing conductor to copper bonded steel earth electrode.

2.0 APPLICABLE STANDARD

The welded joint made by the exothermic welding process shall meet the requirements stipulated in IEEE 80 (1986) .

3.0 BASIC FEATURES

3.1 General

The welding system shall be suitable to make a low resistance solid welded connection between a copper earth conductor and copper bonded steel earth electrode by using exothermic weld technique.

3.2 Design

Exothermic Welding System shall be designed so that the entire connection can be viewed and rated as being an integral part of one homogenous conductor.

3.3 Components

The exothermic welding system shall consist of the following components;

a)	Mould	b)	Weld metal
c)	Sealer	d)	Handle
e)	Cleaning tool	f)	Igniter gun

3.4 Mould

The material of the Mould shall be graphite and the material shall be able to withstand high temperature such as fusing temperature of copper and steel.

The mould shall be suitable to accommodate a through copper conductor of 50 mm ^{2} and a copper bonded steel earth electrode of 19mm diameter.

3.5 Weld Material

Weld material shall be suitable to create higher temperature (i.e. fusing temperature of copper and steel) on ignition. The Igniting material shall not contain any explosive or toxic substance. The weld metal shall be supplied in effectively sealed plastic containers. The containers shall be closely packed in a suitable box.

Specification Committee Approved C.E.B

3.6 Handle

The handle shall be suitable to open the mould, close the mould after placing the copper conductor and the copper bonded earth electrode and also hold the graphite mould effortlessly.

3.7 Sealer

The sealer shall be suitable to be used in the exothermic welding process. It shall be used to keep the weld material above the area to be welded and also to prevent the loss of weld material before ignition.

3.8 Igniter gun

The igniter gun shall be suitable to ignite the weld material from a safe distance. it shall produce sparks only to ignite the weld material and not flames.

3.9 Cleaning Tool

The cleaning tool shall be suitable to clean the mould that are left with sludge after the welding operation without damaging the mould.

4.0 ADDITIONAL REQUIREMENTS

4.1 Marking

Moulds shall have permanent markings as indicated below.

(i) Name and Country of the Manufacturer
(ii) Model/Type
(iii) Type & Size of the Weld material compatible with the mould
(iv) Size of the Ground Rod and the Earthing Conductor to be connected

4.2 Manufacturing Experience

The manufacturer shall have at least 10 years of manufacturing experience in the exothermic welding systems and shall have supplied to utilities outside the country of manufacture.

5.0 QUALITY ASSURANCE

Manufacturer shall have ISO 9001 quality accreditation for the manufacture of exothermic weld systems for the plant where manufacture is done.

6.0 INFORMATION TO BE SUPPLIED WITH THE OFFER

The following shall be furnished with the offer.

i) The catalogues (in English) describing the items indicating Type/Model/Size of the mould, withstand temperatures, composition of weld metal and igniting material ... etc.

ii) Average usage life of the mould - i.e. The recommended No. of separate exothermic weld connectors that can be done before degrading/replacing the mould. Documentary proof for this shall be provided.

iii) Constructional features and material used for moulds and accessories

iv) Certified copy of the ISO 9001 certificate as requested in Clause 5.0.

(v) Documentary evidence to prove the manufacturing experience as per Clause 4.2

vi) Documentary evidence to show the sales during past 10 years out side the country of manufacture. Indicate the year of sale, name of the buyer and the country.

Offers of Bidders who fail to furnish the above particulars will be rejected.

7.0 SAMPLE

: One Sample of the mould offered with the accessories (Handle, Weld Metal, Cleaning Tools, Igniter Gun etc.) shall accompany with the bid to facilitate analysis and evaluation.

Samples of the unsuccessful bidders shall be returned after the award is made.

APPROVAL OF CEB STANDARDS

CEB Standard No. : *CEB Standard 088 : 1999*

Title of the Standard : *Specification for The Moulds, Weld Metal and Accessories for the Exothermic Welding System*

Date of Approval : *September 1999*

This is to certify that the above Standard has been recommended by us for adoption in the CEB.

..... A M Tissera	Chairman	Specification Committee
..... Mrs. B Jayaweera	Member	Specification Committee
..... R J Gunawardena	Member	Specification Committee
..... G Gunawardena	Member	Specification Committee
..... K K A C Samarasinghe	Member	Specification Committee
..... A K Thayaparendran	Convenor	Specification Committee

CEB Standard 088 : 1999 - Specification for The Moulds, Weld Metal and Accessories for the Exothermic Welding System **is approved for adoption in the CEB.**

General Manager,
Ceylon Electricity Board.

Date : 17/09/99.