


A	23.10.2013	ISSUED FOR INFORMATION	AA	ED	ED					
Rev. No.	Date	Description	Prepared	Checked	Contr. By	Onay	EDOPEC			
			ORIGINATOR				Published by			
		EDOPEC ENERJİ PETROL MÜHENDİSLİK SANAYİİ VE TİCARET LİMİTED ŞİRKETİ								
		Document Title <b>PRE-PACKAGED ZINC ANODES BROCHURE</b> <b>EDO-ZN-XXX TYPE</b>								
<b>Head Office :</b> Palmiye Mah. 1219 Sk. Gürarlan Apt. (Kapı No:15) Kat:2 D:6 PK- 33110 Yenisehir -Mersin -Turkey P:+90 324 3260595 F:+90 324 3260596 <a href="http://www.edopec.com">www.edopec.com</a> <a href="mailto:info@edopec.com">info@edopec.com</a>		Document No.							Rev	<b>A</b>
<b>EDO</b>	<b>SPC</b>	<b>COE</b>	<b>COR</b>	<b>INT</b>	<b>XXX</b>	<b>016</b>	<b>718</b>	<b>935</b>	Page	Scale
Co. Org. Cod	Doc Type	Disc. Code	Unit Code	Prj. type	Prj. NO	Prj. Year	Pro.Doc. Seq.No	DCC Seq.No	4	

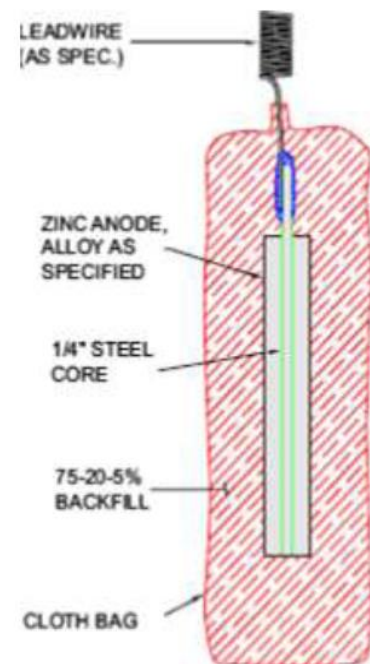
# ZINC SACRIFICIAL ANODES FOR CATHODIC PROTECTION OF BURIED STRUCTURES AND AC EARTHING SYSTEM

## 1. CHEMICAL ANALYSIS:

EDOPEC EDO-ZN-XXX type Anodes shall conform to ASTM B 418, and shall be a pre-packaged zinc alloy ingot of the following chemical composition:

### CHEMICAL COMPOSITION

Material	% by weight
Aluminum (Al) min	0.10, max 0.5
Cadmium (Cd) min	0.025, max 0.07
Iron (Fe)	max 0.005
Copper (Cu)	max 0.005
Lead (Pb)	max 0.006
Others (each)	max 0.10
Zinc (Zn)	remainder



## 2. ELECTRICAL PROPERTIES:

**Anode Potential:** -1.10 Volts

**Ampere hours / Kg:** 780 (min.)

Electrochemical Properties**	
Open-Circuit Voltage (-V)	>1.10
Closed-Circuit Voltage (-V)	>1.05
Actual Capacity (A-h/lb)	353
Current Efficiency (%)	90
Resistivity between core & Zinc ( $\Omega$ )	<0.001

\*\*With respect to Cu/CuSO<sub>4</sub>

## 3. PHYSICAL PROPERTIES:

**Anode Weight:**

<b>Project:</b>	EDOPEC ENERJI	<b>Proj. Identification:</b>	
<b>Document Title:</b>	PRE-PACKAGED ZINC ANODES BROCHURE	<b>Document No.:</b>	EDO-SPC-COE-COR-INT-XXX-016-718-935-REV-A-EDO-ZN-XXX-TYPE PRE-PACKAGED ZINC ANODES BROCHURE
<b>Revision:</b>	A	Date:	15.08.2016

Standard weight is available from single anode; however, any weight or size can be prepared upon request.

### Anode Size:

Any size is available upon request; however the standard size is 42x42mm x 1500mm length

ANODE DIMENSION				
ANODE TYPE	DIMENSION			Net Weight kg
	A	B	L	
EDO-ZN-1020X35-F	35	35	1020	9.0
EDO-ZN-1520X35-F	35	35	1520	14.0
EDO-ZN-1500X42-F	42	42	1500	19.0
EDO-ZN-1220X51-F	51	51	1220	23.0
EDO-ZN-1220X60-F	60	60	1220	32.0
EDO-ZN-915X102-F	102	102	915	68.0

Not: Boyutlardaki tolerans. %3 Ağırlıkta. %5 Bütün boyutlar mm.dir. Note: Tolerance in dimensions. 3% Weight 5% All dimensions are in mm

### Anode Backfill:

Each zinc anode shall be prepackaged in a permeable cloth bag with a backfill of the following composition:

1. Gypsum 75%
2. Powdered Bentonite 20%
3. Anhydrous Sodium Sulfate 5%

### Steel Core:

Anode shall be cast full length with a galvanized 6mm diameter steel core which shall be

<b>Project:</b>	EDOPEC ENERJİ	<b>Proj. Identification:</b>	
<b>Document Title:</b>	PRE-PACKAGED ZINC ANODES BROCHURE	<b>Document No.:</b>	EDO-SPC-COE-COR-INT-XXX-016-718-935-REV-A-EDO-ZN-XXX-TYPE PRE-PACKAGED ZINC ANODES BROCHURE
<b>Revision:</b>	A	Date:	15.08.2016

exposed at one end for connection of the anode lead wire.

**Anode Lead Wire:**

Anode lead wire shall be 10 mm<sup>2</sup> XLPE/PVC stranded copper wire with XLPE/PVC insulation.

Wire shall be attached to the steel core with a copper crimp type mechanical connection and silver solder.

**4. INSTALLATION**

Zinc soil anodes can be vertically or horizontally installed in native soils and should be wetted before burial.

The anode cable can either be connected directly to the structure or through a cathodic protection test station.

Typical cable-to-structure connection methods include welding or mechanical attachment.

**5. LIMITATIONS:**

Zinc is not recommended in environments where the pH is over 8, or where the temperature of the electrolyte is over 120 degrees F(50° C).

**6. OTHER ZINC USES:**

Zinc anodes are popularly used as grounding cells and in low resistance soils where driving potential isn't a major factor in a system design.

<b>Project:</b>	EDOPEC ENERJİ	<b>Proj. Identification:</b>	
<b>Document Title:</b>	PRE-PACKAGED ZINC ANODES BROCHURE	<b>Document No.:</b>	EDO-SPC-COE-COR-INT-XXX-016-718-935-REV-A-EDO-ZN-XXX-TYPE PRE-PACKAGED ZINC ANODES BROCHURE
<b>Revision:</b>	A	Date: 15.08.2016	



<b>Project:</b>	EDOPEC ENERJİ	<b>Proj. Identification:</b>	
<b>Document Title:</b>	PRE-PACKAGED ZINC ANODES BROCHURE	<b>Document No.:</b>	EDO-SPC-COE-COR-INT-XXX-016-718-935-REV-A-EDO-ZN-XXX-TYPE PRE-PACKAGED ZINC ANODES BROCHURE
<b>Revision:</b>	A	Date: 15.08.2016	