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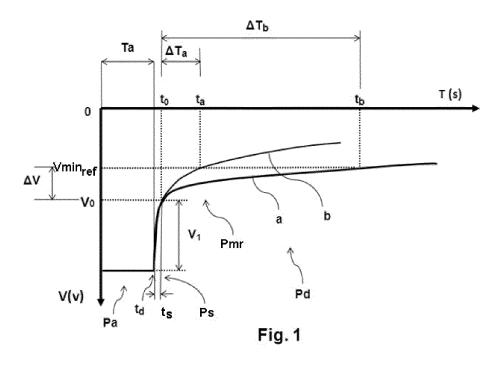
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(54) Method and device for anti-corrosion cathodic protection

(57) The present invention relates to a method and device for impressed current anticorrosion cathodic protection for metal surfaces in contact with an electrolyte, in which the following is used: an inert anode, wherein a protection current is connected and disconnected in successive periods Pa and Pd, each period Pd comprising a standby phase Ps, and a measurement and regulation phase Pmr in which a potential difference ΔV between

the potential Vo in the inert anode and the metal surface is measured, and a potential Vminref is measured, wherein in phase Pmr the time ΔT elapsing between an instant to in which the potential Vo is measured and an instant t in which the Vminref is reached is measured, and the magnitude of the protection current and an activation time Ta of the next period Pa is established depending on ΔV and ΔT .



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EUROPEAN SEARCH REPORT

DOCUMENTS CONSIDERED TO BE RELEVANT Citation of document with indication, where appropriate,

Application Number

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	Place of search
04C01)	Munich

Category	Citation of document with in of relevant passa		priate,		Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X A	WO 2007/010335 A2 (SPA [IT]; LATINI LU ANGELO [IT]) 25 Jan * abstract * * page 4, line 19 - * page 5, line 25 - figures 1-3 *	CIO [IT]; MAN uary 2007 (20 line 28 *	CINI 07-01		8-12 1-7	INV. C23F13/04
X A	DE 29 16 934 B1 (VE WESTFALE) 14 August * abstract; claims * column 2, line 22	1980 (1980-0 1-5; figures	8-14) 1-3 *		8-12 1-7	
						TECHNICAL FIELDS SEARCHED (IPC) C23F E03B F24H
	The present search report has b	•				
	Place of search	Date of compl				Examiner
X : parti Y : parti docu A : tech O : non	Munich ATEGORY OF CITED DOCUMENTS icularly relevant if taken alone icularly relevant if combined with another ment of the same category inclogical background written disclosure mediate document	ner 	T : theory o E : earlier p after the D : docume L : docume	r principle atent docu filing date ent cited in nt cited for	underlying the in iment, but publis the application other reasons	

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13-10-2016

	Patent document cited in search report		Publication date		Patent family member(s)	Publication date
W	0 2007010335	A2	25-01-2007	CN EP RU WO	101374977 A 1904667 A2 2365681 C2 2007010335 A2	25-02-200 02-04-200 27-08-200 25-01-200
D -	E 2916934	B1	14-08-1980	DE EP	2916934 B1 0018522 A1	14-08-198 12-11-198
459						
ORM P0459						

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82