



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) **EP 1 338 704 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
25.08.2004 Bulletin 2004/35

(51) Int Cl.7: **E02D 1/02**

(43) Date of publication A2:
27.08.2003 Bulletin 2003/35

(21) Application number: **03462001.3**

(22) Date of filing: **21.02.2003**

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IT LI LU MC NL PT SE SI SK TR**
Designated Extension States:
AL LT LV MK RO

(71) Applicant: **Subert, István**
2030 Erd (HU)

(72) Inventor: **Subert, István**
2030 Erd (HU)

(30) Priority: **26.02.2002 HU 0200715**

(74) Representative: **Ronaszéki, Tibor**
Victor Hugo u. 6-8.
1132 Budapest (HU)

(54) **Measurement of the compaction rate of granular material layers**

(57) The invention relates to a procedure for the on-site measurement of the compaction rate of granular material layers, especially for the determination of the compaction rate of material layers containing a solid part, liquid, and also material in the gaseous phase e.g. soils, during which, on the first part, a determined amount of deformation work is exerted on the surface of the material layer to be measured via the measuring instrument and the deformation of the material layer is measured, and, on the second part, the water content of the material layer is determined in a way that is known in itself, then from the deformation and the water content of the material layer the compaction rate of the material layer can be determined.

The characteristic feature of the invention is that, that equipment containing a measuring head and a falling weight that may be moved as compared to the measuring head is used as a measuring device and the material layer under examination is subjected to the deformation impact work during the on-site compaction with the consecutive impacts of the falling weight of the equipment, and during the on-site compaction the material layer under examination is subjected to deformation impact work equal to the amount of the deformation impact work exerted during the compaction carried out by a standard laboratory compactor machine that is known in itself.

EP 1 338 704 A3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 03 46 2001

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	DE 100 36 310 A (BRESCH HELMUT) 7 February 2002 (2002-02-07) * paragraphs '0005! - '0008!; figure 1 *	1,5-8	E02D1/02
A	GB 2 249 181 A (BSP INT FOUNDATION) 29 April 1992 (1992-04-29) * abstract; figure 1 *	1	
A	DATABASE WPI Section PQ, Week 198435 Derwent Publications Ltd., London, GB; Class Q42, AN 1984-217740 XP002277511 -& SU 1 063 933 A (ASSEMBLY SPEC CONS) 30 December 1983 (1983-12-30) * abstract *	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			E02D G01N
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
The Hague		21 April 2004	De Neef, K
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03 82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 03 46 2001

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

21-04-2004

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
DE 10036310	A	07-02-2002	DE 10036310 A1	07-02-2002
GB 2249181	A	29-04-1992	NONE	
SU 1063933	A	30-12-1983	SU 1063933 A1	30-12-1983

EPO FORM P0459

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