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(54) **FIRE PROTECTION SYSTEM FOR STRUCTURAL MEMBERS**

(57) This invention relates to coverings for structural members to provide passive fire protection. An assembly comprises an elongate structural member; a pre-cast casting disposed around the structural member comprising an elongate heat insulating tube and a support tube. The elongate heat insulating tube being made of a heat insulating material providing passive fire protection, and the heat insulating tube having a continuous inner circumferential surface and a continuous outer circumferential surface. The support tube being encapsulated within the heat insulating tube between the inner circumferential surface and the outer circumferential surface. A stabilising element is arranged to maintain a gap between the inner circumferential surface of the heat insulating tube and an outer surface of the structural member.

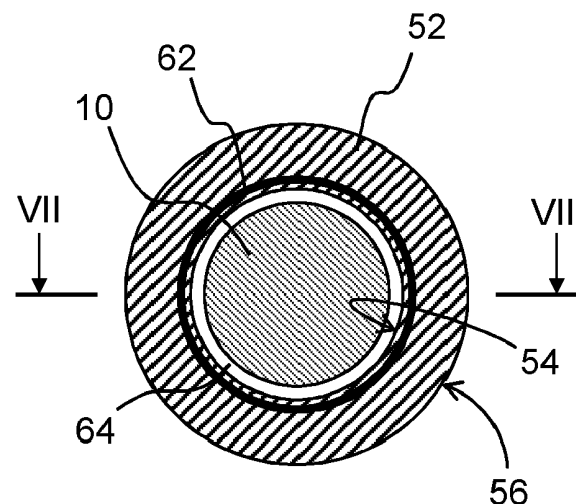


Fig. 6



EUROPEAN SEARCH REPORT

Application Number

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DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	GB 2 429 983 A (INTERACT FIRE SOLUTIONS LTD [GB]) 14 March 2007 (2007-03-14) * abstract; figures 1, 2, 4 *	1-7, 14, 15	INV. E04B1/94 B28B21/02 B28B21/56
Y	JP 2011 064010 A (GIKEN KANRI KK; AGNUS KK) 31 March 2011 (2011-03-31) * paragraph [0036] - paragraph [0048]; figures 3-5 * * paragraph [0073] - paragraph [0079]; figure 9 *	1-7, 14, 15	ADD. E04B1/24
A	FR 2 333 599 A1 (DAUSSAN HENRI [FR]) 1 July 1977 (1977-07-01) * page 6, line 4 - line 22; figures 5-7 *	1	
A	US 2 213 603 A (HOWARD YOUNG JAMES ET AL) 3 September 1940 (1940-09-03) * page 2, line 68 - line 74; figure 2 *	1, 3, 14	
X	GB 2 115 341 A (FOSECO TRADING AG) 7 September 1983 (1983-09-07) * page 1, line 5 - page 2, line 77; figure *	8-13	TECHNICAL FIELDS SEARCHED (IPC) E04B B29C B28B
The present search report has been drawn up for all claims			

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EPO FORM 1503 03.82 (P04C01)

Place of search

The Hague

Date of completion of the search

2 November 2022

Examiner

Galanti, Flavio

CATEGORY OF CITED DOCUMENTS

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

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



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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).

**LACK OF UNITY OF INVENTION
SHEET B**

Application Number

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-7, 14, 15**Passive fire protection covering of structural members**

2. claims: 8-13**A method of manufacturing a passive fire protection covering**

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

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5 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.

02-11-2022

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
GB 2429983 A	14-03-2007	EP 1931834 A1	18-06-2008
		GB 2429983 A	14-03-2007
		WO 2007028974 A1	15-03-2007
JP 2011064010 A	31-03-2011	JP 5378922 B2	25-12-2013
		JP 2011064010 A	31-03-2011
FR 2333599 A1	01-07-1977	DE 2609769 A1	16-06-1977
		FR 2333599 A1	01-07-1977
		IT 1057423 B	10-03-1982
US 2213603 A	03-09-1940	NONE	
GB 2115341 A	07-09-1983	DE 3300036 A1	14-07-1983
		FR 2519287 A1	08-07-1983
		GB 2115341 A	07-09-1983
		JP S58175617 A	14-10-1983