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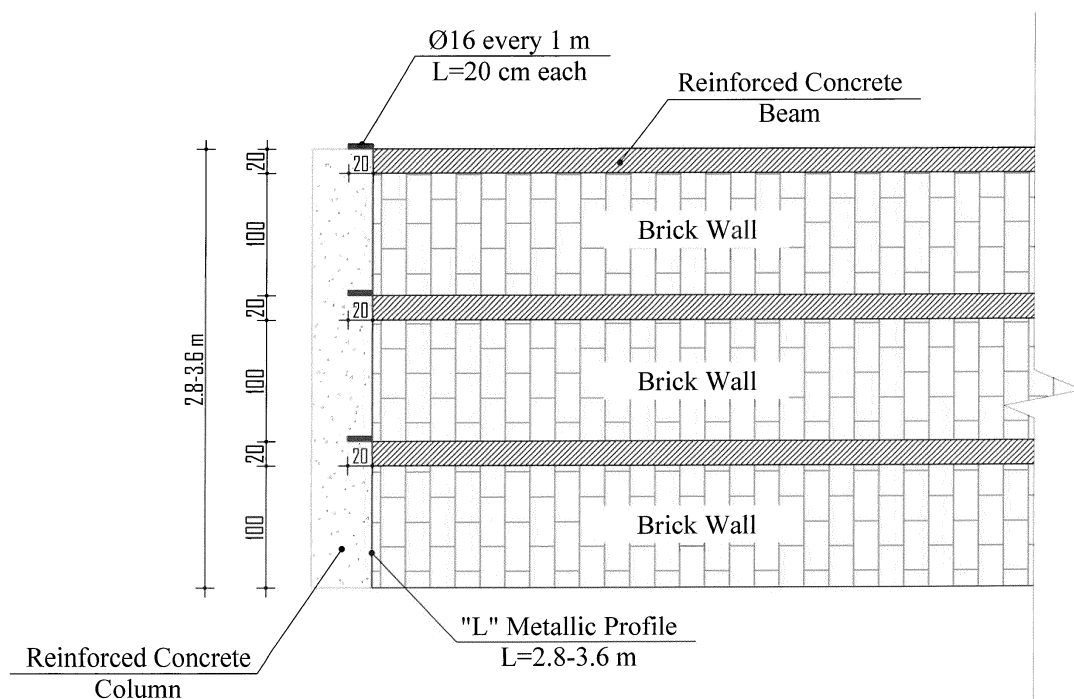
Remarks:
Amended claims in accordance with Rule 137(2)
EPC.

(54) **A TECHNIQUE FOR PROTECTION OF SURROUNDING EXTERNAL WALLS FROM EARTHQUAKES**

(57) The title of the invention is "Protection of surrounding external walls from earthquakes", that argues for the purpose of this invention, consisting of a construc-

tion method that enables the resistance and solidity of surrounding external walls from shocks during earthquakes

SKETCH OF "L" SHAPED METALLIC PROFILES AND CONCRETE BANDS



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Description

[0001] The invention focuses on a building practice in the construction sector, where one of the main elements is the surrounding external walls of an object. The quality and technique followed for their construction plays a key role against the risk factors such as seismic shocks from earthquakes. Therefore, with this invention, a special building technique is claimed, which is applied after the project design phase is finished and the construction phase kicks off.

[0002] Upon reaching the "0" quota (ground level), the construction progresses with erection of concrete columns, reinforcement frameworks and building of the floors, where normally the height of the floor is 2.8 m-3.6 m.

[0003] For each concrete column, two long "L"-shaped profiles with a height of 2.8 m-3.6 m, width 5 cm (depth) and thickness of 3 mm, are applied. To each "L"-shaped profile, on one side, three $\Phi 16$ rods of 20 cm are welded, which are inserted into the column during the concrete casting process.

[0004] Depending on the thickness of the bricks determined in the project design phase, for example 20 x 25 cm, the reinforcement frame is prepared for the columns, placing the "L"-shaped profiles in such a way as to maintain the distance and the space taken by the brick; The brick will be inserted 5 cm into the width of the "L"-shaped profile. In a similar way, preparations are made to all concrete columns, on each floor, to the entire perimeter of the building.

[0005] After finishing the carcass together with the setting of the profiles, the building works for the surrounding external walls begin, inserting the bricks 5 cm to the depth of the "L"-shaped profile. At every 1-meter height of the wall, a concrete reinforcement band is established with inserting 3 or 4 iron bars of $\Phi 10$. This makes it possible and ensures 100% (the outmost) solidity and stability of the surrounding external walls from the earthquake's impacts

[0006] Likewise, even if the carcass is finished and "L"-profiles are not installed, steel strips can be ordered, according to the project design and thickness of the concrete columns, and which can be equipped with nuts and bolts to enable fixing and fastening of the "L"-shaped profiles to the bottom and top of concrete columns, even though such profiles are not placed/inserted in the concrete column the concrete casting process.

[0007] Or, even when the object is finished, as well as the carcass and masonry are completed, but the "L"-shaped profiles have not been inserted, it is possible to fix the "L"-shaped profiles by grinding the bricks that are adjacent to the concrete column on both sides 3 cm; then the "L"-shaped profiles are placed as defined above inserted into the brick and fastened up and down with the steel strip, tightening them tightly, managing to do the same action as if the "L"-shaped profiles were inserted into the wall.

Applicability to industry

[0008] By means of this invention, it is intended to represent a building technique that enables the solidity and stability of the surrounding external walls in various objects, during risky situations, especially during seismic shocks from earthquakes.

Claims

1. Surrounding external wall of an object under construction, with a floor height of 2.8m- 3.6m, where the concrete columns and reinforcements begin at the "0" quote.
2. Concrete column as in claim 1 in which two long "L"-shaped profiles with a height of 2.8 m - 3.6 m, 5 cm deep and 3 mm thick are applied
3. "L"-shaped profiles as in claim 2, on one side of which three $\Phi 16$ rods of 20 cm thick are welded and which are inserted into the column during the concrete casting process
4. "L"-shaped profiles as in claim 3, which are established while maintaining the distance and space that the bricks take, inserting the bricks 5 cm into the depth created by the "L"-shaped profile
5. Concrete Columns as in claims 1-4, to which the "L"-shaped profiles described above are applied.
6. Surrounding external walls as in claims 1-4, at every 1-meter height of which a concrete band with 3 or 4 horizontal iron bars $\Phi 10$, is established, enabling and ensuring the outmost stability and solidity of the surrounding external walls from the seismic shocks (from earthquakes).

Amended claims in accordance with Rule 137(2) EPC.

1. "L"-shaped profiles (angle members) with a height of 2.8 m - 3.6 m, 5 cm deep and 3 mm thick, applied (by welding) into the concrete columns of a relatively tall (high) building concrete construction (floor height of 2.8 m- 3.6 m), through three $\Phi 16$ rods of 20 cm long, welded into the profiles and which are inserted into the column during the concrete casting process. Such "L"-shaped profiles are established in both sides of columns frontages facing each other, while maintaining the distance and space that the bricks thickness take, placed vertically, inserting the bricks 5 cm into the depth created by the "L"-shaped profile.
2. Concrete Columns and "L" shaped profiles, as in claims 1, to which surrounding external walls, at

every 1 m height, include horizontal concrete strips with 4 iron construction bars ($\Phi 10$), at every 1-meter of height, i.e. on a floor height of 2.8-3.6 m, there will be three such reinforcing concrete strips, enabling and ensuring the outmost stability and solidity of the surrounding external walls from the seismic shocks (from earthquakes).

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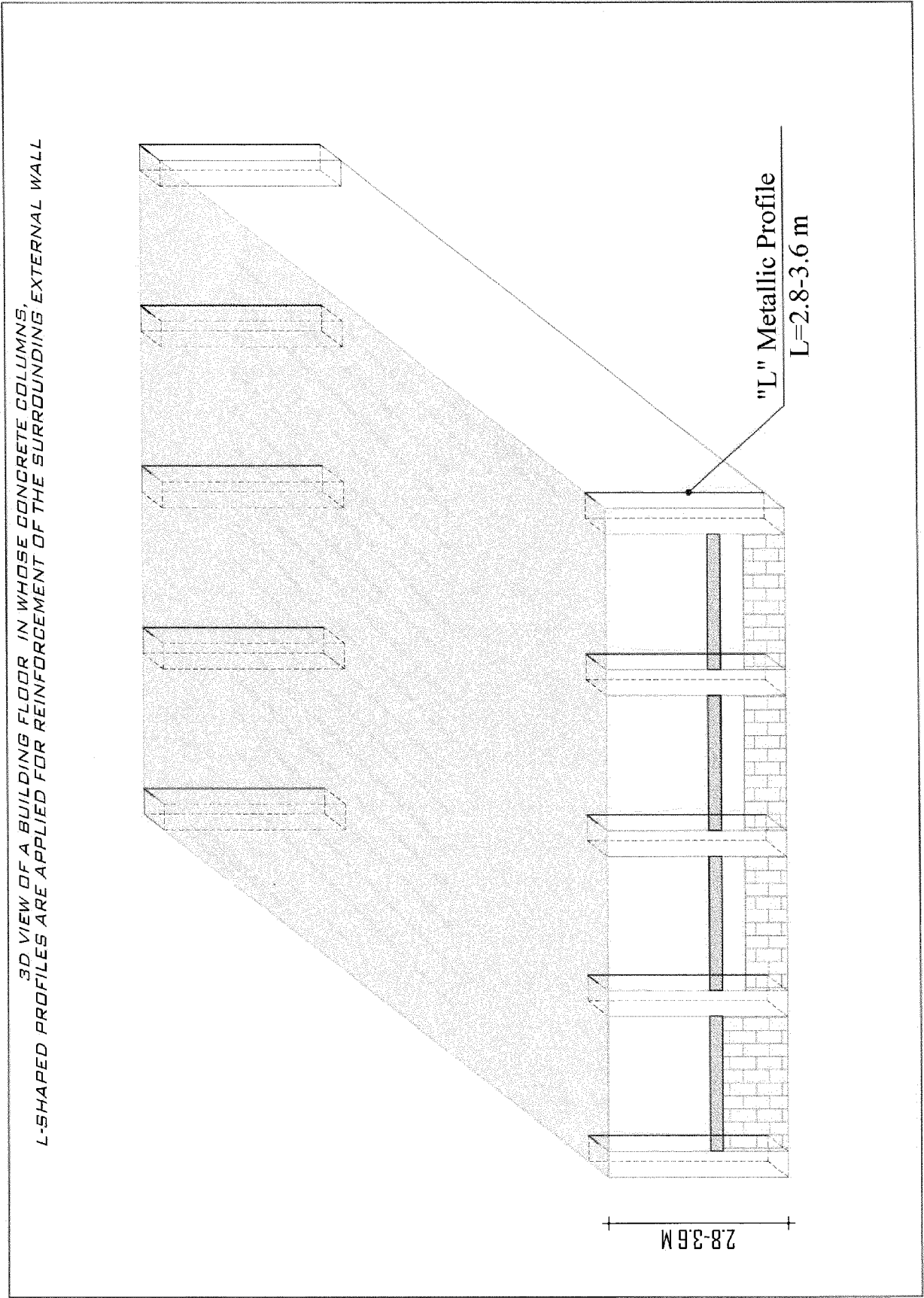
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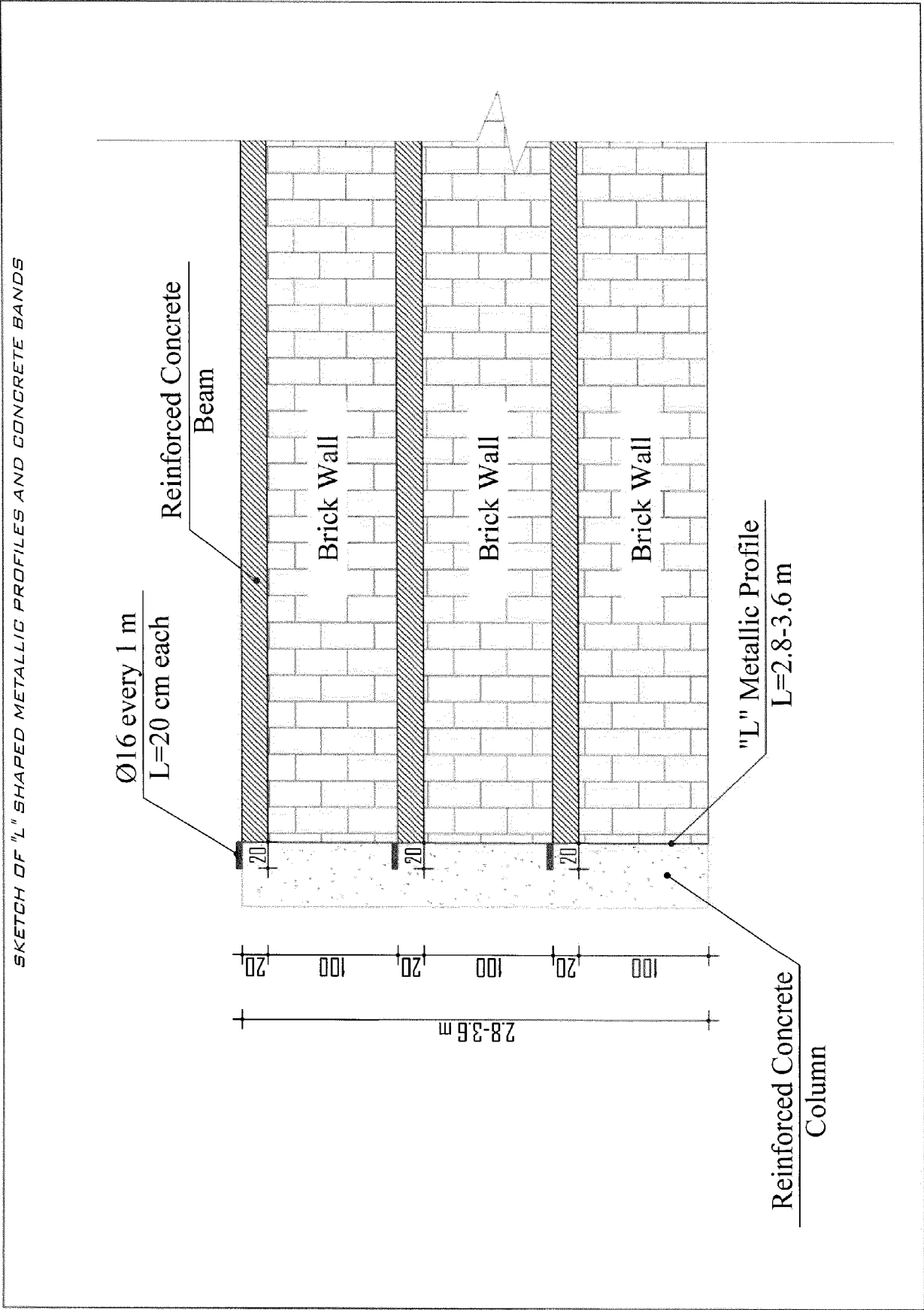
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EUROPEAN SEARCH REPORT

Application Number

EP 23 02 5001

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 3 938 294 A (GABURRI LEON BATTISTA) 17 February 1976 (1976-02-17) * figures 1-12 * * column 3, line 45 * -----	1-6	INV. E04B1/98 E04B2/64 E04C3/36 E04G23/02 E04H9/02
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			TECHNICAL FIELDS SEARCHED (IPC)
			E04B E04G E04H E04C
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
The Hague		28 November 2023	Petrinja, Etiet
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			

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

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