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(54) **Ceramic cladding and linear elements to obtain it**

(57) The invention relates to a ceramic cladding with linear elements and the linear elements to obtain it. The ceramic cladding is realized by means of ceramic linear elements, flanked one to another, having a minimum length of 10 centimetres and a section a width (L) of which is comprised between 4 and 8 millimetres and a height (H) of which is preferably comprised between 5 and 12 millimetres; the linear elements preferably have an upper

part thereof, opposite the lower surface destined to be connected to the wall to be clad, which is not parallel to the lower surface thereof and which is variously shaped. The linear elements to realize the cladding specified hereinabove are directly obtained by moulding or drawing and have a minimum length of 10 centimetres, a section a width (L) of which is comprised between 4 and 8 millimetres and a height (H) of which is preferably comprised between 5 and 12 millimetres.

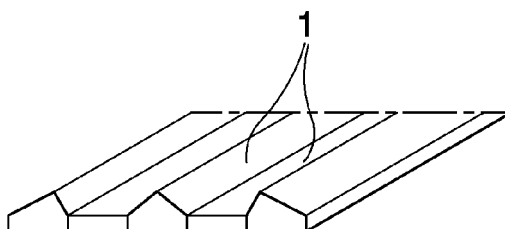


Fig. 7

Description

[0001] The object of the present invention is a ceramic cladding with linear elements and the linear elements to obtain it.

[0002] The invention relates in particular to claddings for walls in masonry, panelling and the like.

[0003] Some ceramic claddings that, to achieve particular effects, are obtained by flanking linear elements made from cutting ceramic tiles, have long been known in the prior art. To obtain the linear elements that make up the cladding, and later the cladding itself, ceramic tiles are utilized which, by means of mechanical tile-cutting, are subdivided into different strips; the strips are then set in an arrangement, flanking them in position each one parallel to the other or on a support that includes a certain number of them (to facilitate installation later), or setting them directly on the wall to be clad, in order to form the desired cladding. Several types of drawbacks are involved in this type of work procedure, as the machining done on the tiles to obtain the strips is fairly long and costly and the strips thus obtained have rough lateral surfaces and not always clean-edged cuts. Furthermore, during this work procedure, some strips may break and for this reason, it is not convenient nor often possible to obtain strips of widths of less than several centimetres; during the work procedure, owing to the cuts, a considerable amount of material is wasted, which increases as the width of the strips decreases, that is, as the number of cuts to be made on the tiles increases.

[0004] It should also be noted that the claddings obtained with these strips are generally fairly "flat", a feature that conflicts with the aim of this type of cladding, which is to obtain a "wavy" cladding, and they have rough parts, or in any case, unglazed parts (the sides of the strips), that are visible.

[0005] An object of the present invention is to provide a ceramic cladding and the linear elements to realize it that eliminate the drawbacks described above.

[0006] An advantage of the present invention is that it makes it possible to obtain claddings with the parts in view being completely glazed and affords a wide range of choices in the realization of the claddings.

[0007] A further advantage of the invention is the achievement of claddings with aesthetic effects differing from those achievable by known claddings, owing to the realization achieved by means of linear elements with sections of very small dimensions.

[0008] Further characteristics and advantages of this invention will emerge more clearly in the following detailed description of possible embodiments of the ceramic cladding and the linear elements to realize it as specified hereinabove, the latter being illustrated by way of non-limiting examples in the accompanying figures in which:

- Figure 1 shows, by way of example, a front view of a possible cladding as specified hereinabove;
- Figures 2, 3, 4, and 5 show possible sections of

the linear elements for the composition of the cladding specified hereinabove;

- Figures 6, 7, and 8 are schematic perspective views of possible combinations of linear elements that have different sections.

[0009] The ceramic cladding specified hereinabove is realized by flanking particular ceramic linear elements 1 one to another. Unlike known claddings of this type, which are realized by means of strips obtained by cutting ceramic tiles, thus having section dimensions that, in order to prevent breakage during the cutting stage, cannot be any smaller than a certain measurement range (minimum 8-10 millimetres), the linear elements 1 that make up the cladding have a minimum length of 10 centimetres and a section a width L of which is comprised between 4 and 8 millimetres and a height H of which is preferably comprised between 4 to 12 millimetres. These elements are thus characterized by their section dimensions being definitely small and considerably smaller than their length; in particular, these linear elements making up the cladding preferably have a length of about 25 centimetres and a section a width L of which is preferably of about 5 millimetres and a height H of which is preferably comprised between 5 and 7 millimetres. Note, however, that the height of the linear elements is not the determining factor for the aesthetic effect one wishes to achieve, as it is possible that part of the height will be incorporated into the material permitting attachment of the elements to the surface to be clad.

[0010] These linear elements are obtained not by mechanical machining of tiles, but directly by means of moulding or drawing; in that manner, in addition to being able to obtain definitely smaller section dimensions, it is possible that the said linear elements are glazed on all surfaces thereof with the exception of the lower surface, destined to be connected to the wall to be clad, which clearly does not require glazing or another type of finishing.

[0011] Furthermore, by means of moulding or drawing it is possible to obtain linear elements, destined to make up the cladding specified hereinabove, that have an upper part thereof, opposite the lower surface destined to be connected to the wall to be clad, which is not parallel to the lower surface and which can be variously shaped, for example with a triangular or rounded section; the thicknesses of the linear elements, that is, the heights of their sections, can also differ with respect to each other.

[0012] Utilizing linear elements realized in this manner, it is possible to obtain ceramic claddings made up of linear elements having sections of very limited dimensions, having all surfaces in view glazed or in any case decorated, and having upper profiles differing from one another and sections exhibiting different heights to each other and projecting differently from an in-view surface of the cladding; this gives the cladding obtained particular and appealing characteristics that are unattainable with the current techniques used to realize claddings of this

type. In any case, it is hereby specified that the linear elements can also be obtained with coloured ceramic slips and without requiring further decoration of the surfaces thereof.

[0013] Particularly notable results have been achieved with linear elements the upper part of which has a triangular section. More specifically, linear elements are utilized, the upper part of which has an isosceles triangle section with base angles measuring about 39°, or linear elements, the upper part of which has a scalene triangle section with base angles respectively measuring about 60° and about 27°.

[0014] Particularly notable results have also been achieved with linear elements the upper part thereof has a rounded section, particularly with a rounded section that exhibits a curved perimeter defined by two arcs of circumference having a radius of about 1.75 millimetres, between which an arc of circumference having a radius of about 3 millimetres is arranged and connected.

[0015] The linear elements that make up the cladding are arranged parallel to each other and can be variously combined or staggered; a possible arrangement (figure 1) and possible combinations (figures 6 to 8) of the linear elements making up the cladding are illustrated in the figures, by way of example only.

Claims

1. A ceramic cladding of a type realised by ceramic linear elements flanked one to another, **characterised in that:** the linear elements (1) which make up the cladding have a minimum length of 10 centimetres and a section a width (L) of which is comprised between 4 and 8 millimetres.
2. The ceramic cladding of claim 1, **characterised in that** said linear elements are glazed on all surfaces thereof with an exception of a lower surface, destined to be connected to a wall to be clad.
3. The ceramic cladding of claim 1, **characterised in that** the linear elements (1) which make up the cladding have a length of about 25 centimetres and a section a width (L) of which is preferably of about 5 millimetres and a height (H) of which is preferably comprised between 5 and 12 millimetres.
4. The ceramic cladding of claim 1, **characterised in that** the linear elements (1) which make up the cladding have an upper part thereof, opposite the lower surface destined to be connected to the wall to be clad, which is not parallel to said lower surface and which is variously shaped.
5. The ceramic cladding of claim 4, **characterised in that** the upper part of the linear elements (1) which make up the cladding has a triangular section.
6. The ceramic cladding of claim 4, **characterised in that** the upper part of the linear elements (1) which make up the cladding has a rounded section.
7. The ceramic cladding of claim 4, **characterised in that** the linear elements (1) which make up the cladding have an upper part which exhibits sections that differ from one another.
8. The ceramic cladding of claim 1, **characterised in that** the linear elements (1) which make up the cladding have a section exhibiting a different height to each other and project differently from an in-view surface of the cladding.
9. Linear elements for realising the cladding of claim 1, **characterised in that** they are directly obtained by moulding or drawing and have a minimum length of 10 centimetres and a section a width (L) of which is comprised between 4 and 8 millimetres.
10. The linear elements of claim 9, **characterised in that** the linear elements are glazed on all surfaces thereof with exception of a lower surface destined to be connected to a wall to be clad.
11. The linear elements of claim 9, **characterised in that** the linear elements have a length of about 25 centimetres and a section a width (L) of which is preferably of about 5 millimetres and a height (H) of which is preferably comprised between 5 and 12 millimetres.
12. The linear elements of claim 9, **characterised in that** an upper part thereof has a triangular section.
13. The linear elements of claim 12, **characterised in that** the upper part thereof has an isosceles triangle section with base angles measuring about 39°.
14. The linear elements of claim 12, **characterised in that** the upper part thereof has a scalene triangle section with base angles respectively measuring about 60° and about 27°.
15. The linear elements of claim 9, **characterised in that** an upper part thereof has a rounded section.
16. The linear elements of claim 15, **characterised in that** the rounded section of the upper part thereof exhibits a curved perimeter defined by two arcs of circumference having a radius of about 1.75 millimetres, between which an arc of circumference having a radius of about 3 millimetres is arranged and connected.
17. The linear elements of claim 9, **characterised in that** they have a section exhibiting different heights.

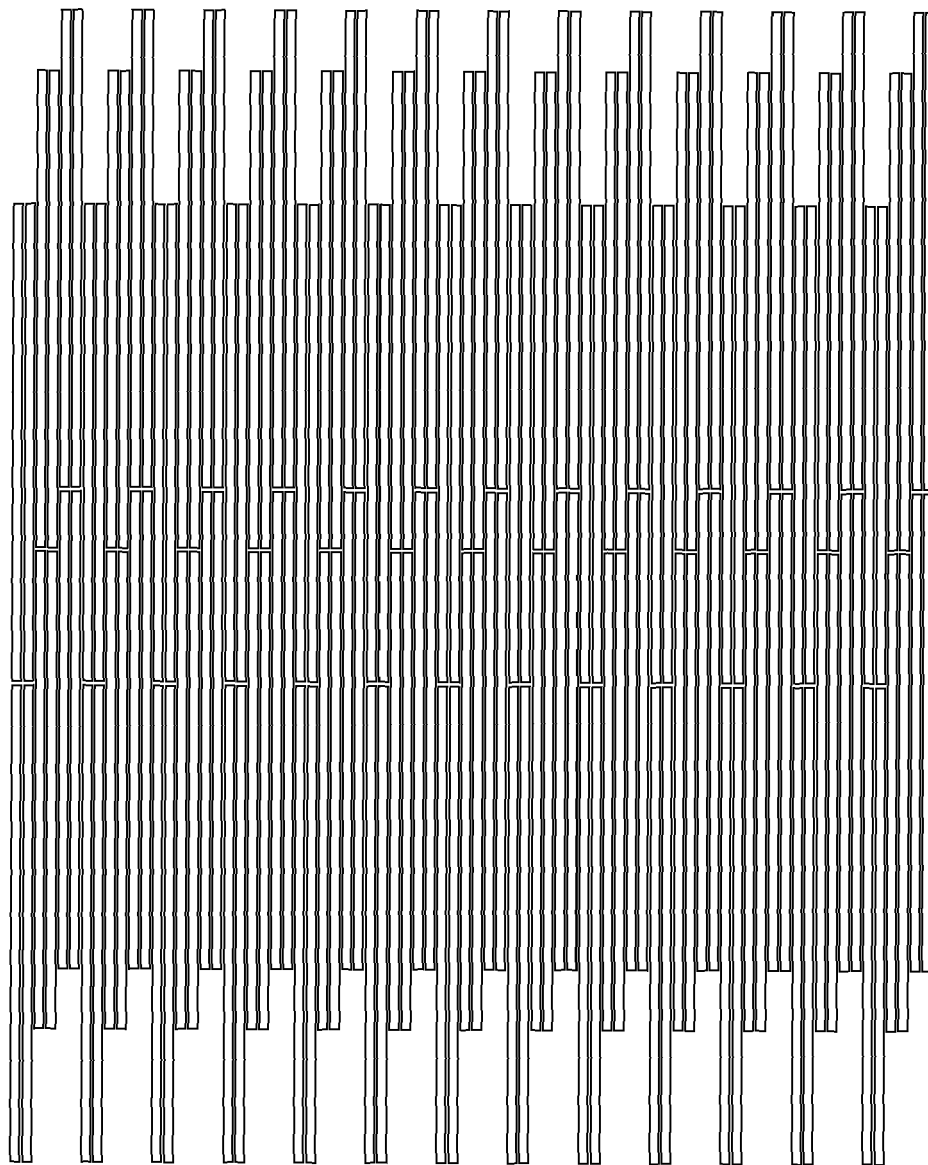


Fig. 1

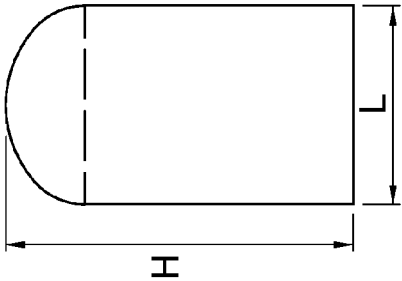


Fig. 5

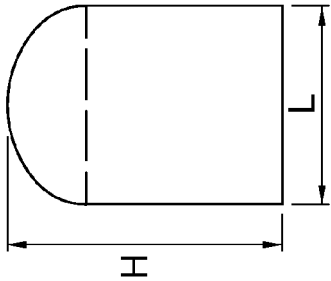


Fig. 4

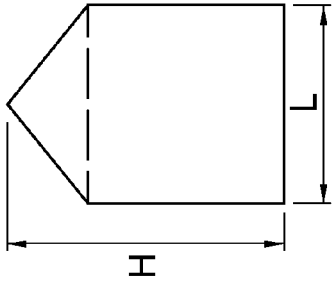


Fig. 3

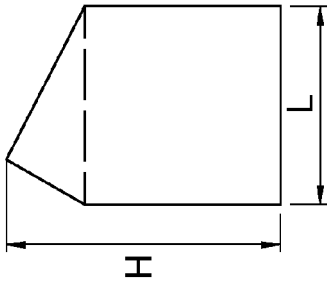


Fig. 2

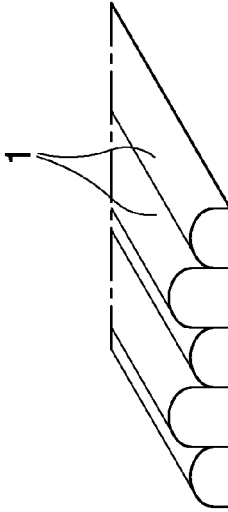


Fig. 8

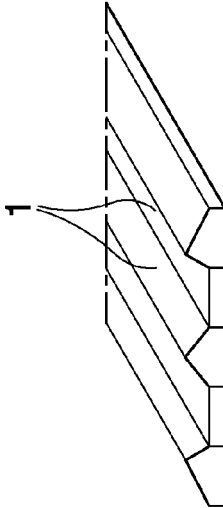


Fig. 7

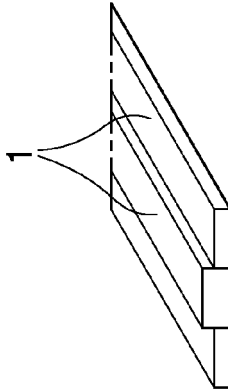


Fig. 6



EUROPEAN SEARCH REPORT

Application Number
EP 11 17 4790

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 3 239 981 A (FITZGERALD JOHN V) 15 March 1966 (1966-03-15) * figures 1-4,18 *	1-17	INV. E04F13/09 E04F13/14
X	GB 989 792 A (MOSAIC TILE COMPANY) 22 April 1965 (1965-04-22) * figures 1-11 *	1-17	
X	DE 20 2004 011051 U1 (WANGER ANDREAS [DE]) 24 November 2005 (2005-11-24) * figures 1-8 *	1-17	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			E04F
Place of search		Date of completion of the search	Examiner
Munich		9 November 2011	Fournier, Thomas
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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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 11 17 4790

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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09-11-2011

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 3239981 A	15-03-1966	NONE	
GB 989792 A	22-04-1965	NONE	
DE 202004011051 U1	24-11-2005	DE 202004011051 U1	24-11-2005
		ES 1061103 U	01-01-2006
		FR 2875248 A3	17-03-2006