

Title (en)  
Method for driving a tunnel.

Title (de)  
Verfahren zum Bauen eines Tunnels.

Title (fr)  
Procédé pour la réalisation d'un tunnel.

Publication  
**EP 0197021 A1 19861008 (FR)**

Application  
**EP 86870032 A 19860312**

Priority  
FR 8503619 A 19850312

Abstract (en)  
1. Method for driving a tunnel by means of prefabricated concrete elements which are mutually fixed together by concreting after being put in place, characterized in that it comprises the following phases : - frontal excavation of the cut, - placing and adjustment of reinforced concrete sills (1) having a generally rectangular shape and possessing an upper bearing surface (2), a space being left between successive sills (1), each sill (1) being arranged in a manner such as to be at the bottom of the vertical walls of the tunnel to be constructed, - connecting the successive sills (1) by casting connecting sills (4), thus forming a continuous footing (5) along each edge of the tunnel, - placing on each continuous footing (5) vertical reinforced concrete elements partially forming the lateral walls of the tunnel, a gap being left between successive vertical elements of the same row, and each vertical element being arranged in alignment with a similar element on the other side of the tunnel to be constructed, - positioning, in each of the gaps between successive vertical elements of each row, two vertical shuttering plates (12, 13) which are at a distance apart and parallel to the axis of the tunnel, these two plates (12, 13) forming, with part of the outer surface of two successive vertical elements, a shuttering for the casting of a reinforced concrete column (20), - introduction of a concrete reinforcement (15) into the said shuttering, - placing of lintels (16) parallel to the axis of the tunnel close to the upper edge of the shuttering plate (13) situated on the interior side of the tunnel to be constructed, in a manner such that the ends of each lintel (16) bear on two successive vertical elements, each lintel (16) being arranged in alignment with a lintel (16) situated on the other side of the tunnel to be constructed, - casting-in-place of a concrete floor (21) between the two continuous footings (5), - placing of upper cross-beams (17) in alignment with the shutterings between successive vertical elements, in a manner such that the ends of each beam (17) bear on two lintels (16) arranged in alignment with one another, - casting of concrete in the shutterings between successive vertical elements and fixing of each beam (17) to the reinforced concrete columns (20) thus formed and situated in alignment with one another, - filling the space behind the lateral walls of the tunnel, - placing and fixing upper pre-slabs (18) of reinforced concrete on the beams (17), in a manner such that the front edge of each pre-slab (18) bears on a beam (17) and its rear edge on the subsequent beam (17), relative to the direction of advance of the working, - concreting of the upper slab (19) and blinding of the tunnel, and - backfilling and covering of the tunnel.

Abstract (fr)  
L'invention concerne la construction de tunnels. Elle a pour objet un procédé utilisant des éléments préfabriqués en béton et qui comprend les phases suivantes : - pose de semelles (1) et raccordement de celles-ci par coulage de semelles de liaison (4), pour former une embase continue (5) le long de chaque bord du tunnel, - pose d'éléments verticaux en forme de coques (8) en béton armé, en ménageant des intervalles entre ceux-ci, - pose de linteaux (16) enjambant ces intervalles, - coulage d'un radier (21), - pose de poutres transversales (17), - coulage de colonnes en béton armé (20), - pose de prédalles supérieures (18) sur les poutres (17), - bétonnage de la dalle supérieure (19). Le procédé de l'invention a pour avantage de comprendre une suite d'opérations simples et répétées et d'utiliser des éléments préfabriqués de poids relativement réduit, ce qui favorise la rapidité d'exécution et ne nécessite qu'un chantier de longueur réduite.

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