

Title (en)
THREE-DIMENSIONAL TUBE BUILDING STRUCTURE

Title (de)
DREIDIMENSIONALE RÖHRENFÖRMIGE GEBÄUDESTRUKTUR

Title (fr)
STRUCTURE DE BÂTIMENT TUBULAIRE EN TROIS DIMENSIONS

Publication
EP 2011931 A4 20090415 (EN)

Application
EP 06834568 A 20061213

Priority
• JP 2006324813 W 20061213
• JP 2006118399 A 20060421

Abstract (en)
[origin: EP2011931A1] The present invention ensures high structural stability and high earthquake resistance and, at the same time, achieve a high degree of freedom in design than is available with the architectural structure based on the tubular frame of the prior art. Disclosed is a three-dimensional tubular architectural structure constituted by forming a three-dimensional tubular frame from a main frame by erecting a plurality of single-layer structural modules having honeycomb structure of first rigid joint in multiple layer configuration, disposing two sides each on the left- and right-hand sides of the hexagonal structural unit with an angle from the plane which includes the top and bottom sides, disposing adjacent two layers of the hexagonal structural unit to oppose each other and connecting the hexagonal structural units by means of inter-layer tie beams, forming a second hexagonal structural unit from beams corresponding to the top and bottom sides of one of two layers of adjacent single-layer structural modules, the inclined columns disposed on the left and right sides and the inter-layer tie beam, and forming a honeycomb structure of second rigid joint from the second hexagonal structural units.

IPC 8 full level
E04B 1/18 (2006.01); **E04B 1/19** (2006.01); **E04B 1/32** (2006.01); **E04B 1/34** (2006.01)

CPC (source: EP KR US)
E04B 1/18 (2013.01 - KR); **E04B 1/19** (2013.01 - KR); **E04B 1/32** (2013.01 - KR); **E04B 1/34** (2013.01 - EP KR US);
E04B 2001/1978 (2013.01 - EP US)

Citation (search report)
• [A] US 3229004 A 19660111 - STEVEN LEVINE RICHARD
• [A] WO 9615333 A1 19960523 - OWENS CHARLES R [US]
• See references of WO 2007122775A1

Cited by
CN109898659A

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)
AL BA HR MK RS

DOCDB simple family (publication)
EP 2011931 A1 20090107; **EP 2011931 A4 20090415**; **EP 2011931 B1 20091209**; CN 101336325 A 20081231; CN 101336325 B 20110112; DE 602006011061 D1 20100121; JP 2007291647 A 20071108; JP 4108101 B2 20080625; KR 100925296 B1 20091104; KR 20080108079 A 20081211; TW 200741068 A 20071101; US 2010154345 A1 20100624; WO 2007122775 A1 20071101

DOCDB simple family (application)
EP 06834568 A 20061213; CN 200680052177 A 20061213; DE 602006011061 T 20061213; JP 2006118399 A 20060421; JP 2006324813 W 20061213; KR 20087017746 A 20061213; TW 95147064 A 20061215; US 88473206 A 20061213