

Title (en)
Shielded container for the transport and storage of a radioactive material

Publication
EP 0143033 A1 19850529 (FR)

Application
EP 84402121 A 19841022

Priority
FR 8316914 A 19831024

Abstract (en)
1. Shielded container for transporting and storing a radioactive load, the container being made of a material which absorbs gamma radiation, discharging towards the outside the thermal energy released by the load and having : a first constituent part (3) comprising a thick cylindrical envelope enclosing the load in a longitudinal central cavity and a second constituent part (11) comprising two spaced coaxial cylinders which enclose between them a material which absorbs neutron radiation, are connected to one another by thermal conduction means (15) and are provided, towards the outside, with heat dissipation fins (16), a clearance constituting a thin layer of air (1) performing a function of thermal insulation and appearing when the container is caught in a fire, characterized in that, when the first and second constituent parts are at ambient temperature, the inner cylinder (12) of the second constituent part (11) is mounted without mechanical clearance on the first constituent part (3), in that, during the normal functioning of the container, a radioactive load being present in the said longitudinal central cavity, the inner cylinder (12) of the second constituent part (11) is mounted with a tight fit on the first constituent part (3), in that the said clearance constituting a thin layer of air (1) appears between the inner cylinder (12) and the first constituent part (3), and in that the two coaxial cylinders (12 and 13), the thermal conduction means (15) and the fins (16) are cast as a single piece from spheroidal graphite iron.

Abstract (fr)
Le conteneur selon l'invention est conçu pour résister à toutes les contraintes d'exploitations, incidentelles, et aussi accidentelles (chocs mécaniques et incendie, en particulier). Selon une caractéristique principale, il comporte un corps interne (3), renfermant le chargement radioactif (1, 2), autour duquel est montée une partie externe (11) comportant la protection neutronique (14) et des ailettes de refroidissement (16). Lors de l'introduction du chargement radioactif, on obtient un effet d'auto-frettage entre les deux parties constitutives. Ce conteneur sert notamment pour le transport et le stockage d'éléments combustibles préalablement irradiés au sein de réacteurs nucléaires.

IPC 1-7
G21F 5/00

IPC 8 full level
G21F 9/36 (2006.01); **G21F 5/00** (2006.01); **G21F 5/005** (2006.01); **G21F 9/00** (2006.01)

CPC (source: EP)
G21F 5/005 (2013.01)

Citation (search report)
• [X] EP 0054944 A1 19820630 - STEAG KERNENERGIE GMBH [DE]
• [A] GB 2003782 A 19790321 - STEAG KERNENERGIE GMBH
• [A] FR 2179672 A2 19731123 - LEMER & CIE [FR]
• [A] FR 2454158 A1 19801107 - TRANSNUKLEAR GMBH [DE]
• [A] US 3882315 A 19750506 - SOLDAN DONALD W

Designated contracting state (EPC)
BE DE GB

DOCDB simple family (publication)
EP 0143033 A1 19850529; EP 0143033 B1 19880309; DE 3469817 D1 19880414; FR 2553922 A1 19850426; FR 2553922 B1 19881007; JP S60111199 A 19850617

DOCDB simple family (application)
EP 84402121 A 19841022; DE 3469817 T 19841022; FR 8316914 A 19831024; JP 22229384 A 19841024