

Title (en)
METAL-TO-COMPOSITE HIGH-PRESSURE CYLINDER

Title (de)
METALL-ZU-VERBUNDWERKSTOFF-HOCHDRUCKZYLINDER

Title (fr)
BOUEILLE HAUTE PRESSION EN MÉTAL ET COMPOSITES

Publication
EP 2461081 A1 20120606 (EN)

Application
EP 09844705 A 20090514

Priority
RU 2009000232 W 20090514

Abstract (en)
This invention is intended for exclusion of loading of the ring-type welded joint of the cylinder-shaped part with the bottom. Metal-composite high-pressure cylinder contains thin-wall welded metal liner and external pressure-resistant shell made of composite material and formed by combination of groups of layers of high-modulus and low-modulus fibers of the reinforcing materials, which fibers are oriented in spiral and circular directions, while in the zone of ring-type welded seam in the liner's envelope there is a ring-type lens-shaped compensator, and while wall structure of the composite pressure-resistant shell of the cylinder includes at least one ring-type bracelet - limiter of axial deformations, which bracelet is installed above the lens-shaped compensator and over all its surface is rigidly connected with the independent groups of continuous reinforcing fibers, while width of this bracelet exceeds width of the compensator, and number of the bracelets - limiters is determined proceeding from the condition of limitation of axial deformation of the compensator, and from resilience of the used material.

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