

Title (en)  
THERMALLY INSULATED PIPE

Title (de)  
THERMISCH GEDÄMMTES ROHR

Title (fr)  
TUBE ISOLÉ THERMIQUEMENT

Publication  
**EP 4110605 A1 20230104 (DE)**

Application  
**EP 21706306 A 20210223**

Priority  
• EP 20159569 A 20200226  
• EP 2021054429 W 20210223

Abstract (en)  
[origin: WO2021170573A1] The invention relates to thermally insulated line pipes comprising thermal insulation, outer jackets, and medium pipes, wherein the thermal insulation has a foam with a density of 30-80kg/m<sup>3</sup>, and the outer jacket comprises a thermoplastic (21) which has a modulus of 300-1400 MPa and a wave shape. The invention additionally relates to the use and the production of such pipes and to composite materials, the use thereof for thermal insulation, and the production thereof.

IPC 8 full level  
**B32B 1/08** (2006.01); **B32B 3/26** (2006.01); **B32B 3/28** (2006.01); **B32B 3/30** (2006.01); **B32B 5/14** (2006.01); **B32B 5/18** (2006.01); **B32B 5/20** (2006.01); **B32B 7/12** (2006.01); **B32B 15/04** (2006.01); **B32B 15/08** (2006.01); **B32B 15/18** (2006.01); **B32B 15/20** (2006.01); **B32B 27/06** (2006.01); **B32B 27/30** (2006.01); **B32B 27/32** (2006.01); **B32B 27/40** (2006.01)

CPC (source: AT CH DK EP US)  
**B29C 44/324** (2013.01 - CH); **B29C 48/13** (2019.01 - CH); **B32B 1/08** (2013.01 - AT CH DK EP US); **B32B 3/26** (2013.01 - AT DK EP); **B32B 3/28** (2013.01 - AT DK EP); **B32B 3/30** (2013.01 - AT DK EP); **B32B 5/14** (2013.01 - AT); **B32B 5/145** (2013.01 - DK EP); **B32B 5/18** (2013.01 - AT DK EP); **B32B 5/20** (2013.01 - AT DK EP US); **B32B 7/022** (2018.12 - DK EP US); **B32B 7/027** (2018.12 - DK EP US); **B32B 7/12** (2013.01 - AT DK EP); **B32B 15/04** (2013.01 - AT); **B32B 15/046** (2013.01 - DK EP); **B32B 15/08** (2013.01 - AT DK EP); **B32B 15/095** (2013.01 - DK EP); **B32B 15/18** (2013.01 - AT DK EP); **B32B 15/20** (2013.01 - AT DK EP); **B32B 27/06** (2013.01 - AT); **B32B 27/065** (2013.01 - DK EP US); **B32B 27/30** (2013.01 - AT); **B32B 27/308** (2013.01 - DK EP); **B32B 27/32** (2013.01 - AT DK EP US); **B32B 27/40** (2013.01 - AT DK EP US); **B32B 38/0012** (2013.01 - US); **F16L 11/00** (2013.01 - AT); **F16L 59/143** (2013.01 - CH DK EP); **B32B 2250/03** (2013.01 - DK EP); **B32B 2250/04** (2013.01 - DK EP); **B32B 2250/05** (2013.01 - DK EP); **B32B 2250/24** (2013.01 - DK EP); **B32B 2266/0278** (2013.01 - DK EP US); **B32B 2266/06** (2013.01 - DK EP); **B32B 2266/08** (2013.01 - DK EP US); **B32B 2307/304** (2013.01 - DK EP US); **B32B 2307/54** (2013.01 - DK EP); **B32B 2307/546** (2013.01 - DK EP); **B32B 2307/72** (2013.01 - US); **B32B 2307/732** (2013.01 - US); **B32B 2597/00** (2013.01 - DK EP US)

Citation (search report)  
See references of WO 2021170573A1

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

Designated validation state (EPC)  
KH MA MD TN

DOCDB simple family (publication)  
**EP 3871873 A1 20210901**; AT 17855 U1 20230515; CH 718489 B1 20230414; CH 718489 B9 20230615; DE 202021004117 U1 20221005; DK 202200071 U1 20221108; DK 202200071 Y3 20221121; EP 4110605 A1 20230104; US 2023093106 A1 20230323; WO 2021170573 A1 20210902

DOCDB simple family (application)  
**EP 20159569 A 20200226**; AT 90032021 U 20210223; CH 9842022 A 20210223; DE 202021004117 U 20210223; DK BA202200071 U 20221010; EP 2021054429 W 20210223; EP 21706306 A 20210223; US 202117802600 A 20210223