

Title (en)

ANISOTROPIC POLYMERS AND METHOD OF PRODUCING THEM.

Title (de)

ANISOTROPE POLYMERE SOWIE EIN VERFAHREN ZU DEREN HERSTELLUNG.

Title (fr)

POLYMERES ANISOTROPES ET PROCEDE PERMETTANT DE LES PRODUIRE.

Publication

EP 0667876 A1 19950823 (DE)

Application

EP 94927574 A 19940907

Priority

- EP 9402979 W 19940907
- LU 88405 A 19930908

Abstract (en)

[origin: WO9507308A1] Described are anisotropic polymers produced from a diepoxide A of the formula (I) in which: Y is O-CY₂, CH₂ or a C-C single bond; X is one of structural elements (a), (b), (c), (d), (e) or (f); R₁ to R₅, independently or each other, are hydrogen, halogen or a methyl, ethyl, propyl or butyl group; or R₂, R₃, R₄ or R₅ may be a benzene group, whereby R₂ to R₅ is hydrogen when R₁ is not hydrogen and R₁ is hydrogen when R₂ to R₅ are not hydrogen, and n may be 1 to 3; whereby the central grouping Z may be an aromatic heterocyclic ring containing one or two nitrogen atoms or a cycloaliphatic trans-1,4-cyclohexylene group, and from a diisocyanate B of one of the formulae (II) to (VII) in which: Y is a C-C single bond, CH₂ or C₂H₄; X is one of structural elements (a), (b), (c) or (f), n is 0 or 1 and R₁ to R₅ are the atoms or groups given in the definition of formula (I); whereby the central grouping Z may also be a cycloaliphatic trans-1,4-cyclohexylene group, and R is (CH₂)₆-NCO, the molar ratio of diepoxide A to diisocyanate B being about 2:1 to 1:4. Also described is a method for the production of such anisotropic polymers, in which the diepoxide A and the diisocyanate B are reacted at a temperature of about 100 to 300 DEG C at a molar ratio of about 2:1 to 1:4. These anisotropic polymers have a low coefficient of thermal expansion in the direction of orientation of the molecules and can be used in the manufacture of insulation materials, laminates and coatings.

IPC 1-7

C08G 18/00; **C08G 18/77**; **C09K 19/38**

IPC 8 full level

C08G 18/58 (2006.01); **C08G 18/00** (2006.01); **C08G 18/77** (2006.01); **C08G 18/81** (2006.01); **C08G 59/40** (2006.01); **C09K 19/38** (2006.01)

CPC (source: EP US)

C08G 18/003 (2013.01 - EP US); **C08G 18/771** (2013.01 - EP US); **C08G 18/8125** (2013.01 - EP US); **C09K 19/3804** (2013.01 - EP US); **C09K 19/3823** (2013.01 - EP US)

Citation (search report)

See references of WO 9507308A1

Designated contracting state (EPC)

AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

WO 9507308 A1 19950316; CA 2148936 A1 19950316; CA 2148936 C 19990316; EP 0667876 A1 19950823; ES 2079335 T1 19960116; GR 960300004 T1 19960229; JP H07508797 A 19950928; LU 88405 A1 19950405; US 5569727 A 19961029

DOCDB simple family (application)

EP 9402979 W 19940907; CA 2148936 A 19940907; EP 94927574 A 19940907; ES 94927574 T 19940907; GR 960300004 T 19960229; JP 50845494 A 19940907; LU 88405 A 19930908; US 43334495 A 19950508