Title (en)

BIMODAL POLYETHYLENE COPOLYMERS

Title (de)

BIMODALE POLYETHYLENCOPOLYMERE

Title (fr)

COPOLYMÈRES DE POLYÉTHYLÈNE BIMODAL

Publication

EP 4284845 A1 20231206 (EN)

Application

EP 22704487 A 20220128

Priority

- US 202117160481 A 20210128
- US 2022070392 W 20220128

Abstract (en)

[origin: WO2022165503A1] Ethylene-based polymers are characterized by a density from 0.92 to 0.955 g/cm3, a HLMI of less than 35 g/10 min, and a ratio of a number of short chain branches (SCBs) per 1000 total carbon atoms at Mz to a number of SCBs per 1000 total carbon atoms at Mn in a range from 11.5 to 22. These polymers can have a higher molecular weight (HMW) component and a lower molecular weight (LMW) component, in which a ratio of a number of SCBs per 1000 total carbon atoms at Mn of the HMW component to a number of SCBs per 1000 total carbon atoms at Mn of the LMW component is in a range from 10.5 to 22. These ethylene polymers can be produced using a dual catalyst system containing an unbridged metallocene compound with an indenyl group having at least one halogen-substituted hydrocarbyl substituent with at least two halogen atoms, and a single atom bridged metallocene compound with a fluorenyl group and a cyclopentadienyl group.

IPC 8 full level

C08F 210/16 (2006.01)

CPC (source: EP KR)

C08F 4/65916 (2013.01 - KR); **C08F 210/16** (2013.01 - EP KR); C08F 4/65904 (2013.01 - KR); C08F 4/65916 (2013.01 - EP); C08F 4/65925 (2013.01 - KR); C08F 4/65927 (2013.01 - KR); C08F 2410/07 (2021.01 - EP KR); C08F 2500/05 (2013.01 - KR)

C-Set (source: EP)

1. **C08F 210/16** + **C08F 4/65904**
2. **C08F 210/16** + **C08F 4/65925** + **C08F 4/65927**
3. C08F 210/16 + C08F 210/14 + C08F 2500/04 + C08F 2500/05 + C08F 2500/06 + C08F 2500/10 + C08F 2500/12

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)

WO 2022165503 A1 20220804; CA 3210180 A1 20220804; CN 116783224 A 20230919; EP 4284845 A1 20231206; KR 20230130025 A 20230911; MX 2023008719 A 20230802

DOCDB simple family (application)

US 2022070392 W 20220128; CA 3210180 A 20220128; CN 202280011968 A 20220128; EP 22704487 A 20220128; KR 20237025643 A 20220128; MX 2023008719 A 20220128