

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
24 February 2022 (24.02.2022)



(10) International Publication Number
WO 2022/038570 A1

(51) International Patent Classification:

D01F 8/14 (2006.01) *D02G 3/02* (2006.01)
D01D 5/32 (2006.01) *D06N 7/00* (2006.01)
D02G 3/44 (2006.01)

MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM,
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
KM, ML, MR, NE, SN, TD, TG).

(21) International Application Number:

PCT/IB2021/057668

Declarations under Rule 4.17:

— of inventorship (Rule 4.17(iv))

(22) International Filing Date:

20 August 2021 (20.08.2021)

Published:

— with international search report (Art. 21(3))
— in black and white; the international application as filed
contained color or greyscale and is available for download
from PATENTSCOPE

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

202021036119 21 August 2020 (21.08.2020) IN

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(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,
HR, HU, ID, IL, IN, IR, IS, IT, JO, JP, KE, KG, KH, KN,
KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD,
ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO,
NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW,
SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN,
TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ,
UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ,
TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV,

(54) Title: TWISTED AND HEAT-SET BCF YARN COMPRISING SIDE-BY-SIDE BI-COMPONENT FILAMENT, METHOD
FOR FORMING SUCH YARN AND A FLOOR COVERING MATERIAL COMPRISING SUCH YARN

(57) Abstract: Disclosure provides a twisted and heat-set Bulk Continuous side-by-side bi-component Filament (BCF) yarn including a plurality of side-by-side bi-component filaments, each includes first and second polymer components. The first polymer component forms a first side of the side-by-side bi-component filaments, and includes polybutylene terephthalate (PBT) in at least 25 and up to 75 volume percent of the filament in the BCF yarn. Further, the second polymer component forms a second side of the side-by-side bi-component filaments, and includes one of polyethylene terephthalate (PET) or polylactic acid (PLA) in at most 75 and down to 25 volume percent of the filament in the BCF yarn. The twisted and heat-set BCF yarn is obtained by a single-step continuous process, and subsequently followed by steps of twisting and/or cabling and heat-setting. The twisted and heat-set BCF yarn as obtained exhibits an elongation to break in a range of 40% to 65%, and floor covering manufactured from the yarn exhibits a Hexapod rating after 12000 cycles of more than 2.

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