

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
06 March 2025 (06.03.2025)



(10) International Publication Number
WO 2025/049158 A1

(51) International Patent Classification:

B29C 48/00 (2019.01) *B32B 27/10* (2006.01)
B29C 48/154 (2019.01) *B32B 29/00* (2006.01)
B29C 48/88 (2019.01) *C08J 7/04* (2020.01)
B29C 48/92 (2019.01) *C08J 7/048* (2020.01)

(21) International Application Number:

PCT/US2024/042992

(22) International Filing Date:

20 August 2024 (20.08.2024)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/578,673 25 August 2023 (25.08.2023) US

(71) Applicant: **DANIMER IPSCO, LLC** [—/US]; 140 Industrial Boulevard, Bainbridge, GA 39817 (US).

(72) Inventors: **DURIE, Karson**; 251 Ashbrook Drive, Athens, GA 30605 (US). **TERWILLEGAR, Arne, Matthew**; 1490

Rowan Oak Estates Way, Watkinsville, GA 30677 (US).
MOORE, John; 9075 Four Mile Creek Road, Gainesville, GA 30506 (US). **GRUBBS III, Joe, B.**; 2753 Whitlow Creek Drive, Bishop, GA 30621 (US).

(74) Agent: **LAROSE, David E.**; Luedeka Neely Group, P.C., P.O. Box 1871, Knoxville, Tennessee 37901 (US).

(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, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, 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.

(54) Title: BIODEGRADABLE EXTRUSION COATING PROCESS

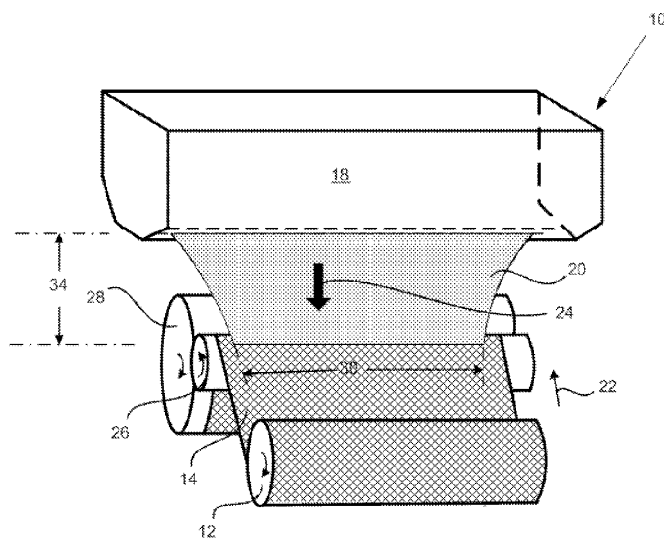


FIG. 2

(57) Abstract: A method for extruding a poly(hydroxyalkanoate)-based material onto a packaging substrate and a packaging substrate containing the poly(hydroxyalkanoate)-based coating. The method includes extruding a molten film comprising poly(hydroxyalkanoate) through a slot die onto a moving web of the packaging substrate to provide a coated substrate. A coated side of the coated substrate is contacted with a chill roller to crystallize the molten film on the coated substrate, wherein the chill roller has a temperature ranging from about 30 °C to about 60 °C.

[Continued on next page]

WO 2025/049158 A1

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, 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, MC, ME, 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).

Published:

— with international search report (Art. 21(3))