



(43) International Publication Date
18 December 2014 (18.12.2014)

(51) International Patent Classification:

C08J 9/00 (2006.01) *C08L 67/00* (2006.01)
C08K 7/00 (2006.01) *C08L 23/00* (2006.01)
C08J 3/20 (2006.01)

(21) International Application Number:

PCT/IB2014/062029

(22) International Filing Date:

6 June 2014 (06.06.2014)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/833,996 12 June 2013 (12.06.2013) US
61/907,548 22 November 2013 (22.11.2013) US

(71) Applicant: **KIMBERLY-CLARK WORLDWIDE, INC.**
[US/US]; 2300 Winchester Road, Neenah, Wisconsin
54956 (US).

(72) Inventors: **TOPOLKARAEV, Vasily, A.**; 2300
Winchester Road, Neenah, Wisconsin 54956 (US).
MCENEANY, Ryan, J.; 2300 Winchester Road, Neenah,
Wisconsin 54956 (US). **SCHOLL, Neil, T.**; 2300
Winchester Road, Neenah, Wisconsin 54956 (US).
LORTSCHER, Peter, S.; 2300 Winchester Road, Neenah,

Wisconsin 54956 (US). **MLEZIVA, Mark M.**; 2300
Winchester Road, Neenah, Wisconsin 54956 (US).

(74) Agents: **JOHNSTON, Jason, W.** et al.; Dority & Man-
ning, P.A., P O Box 1449, Greenville, South Carolina
29602-1449 (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, CZ, DE, DK, DM,
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR,
KZ, LA, LC, LK, LR, LS, LT, 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, SM, ST, SV, SY, TH, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, 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, 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, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM,

[Continued on next page]

(54) Title: ENERGY ABSORBING MEMBER

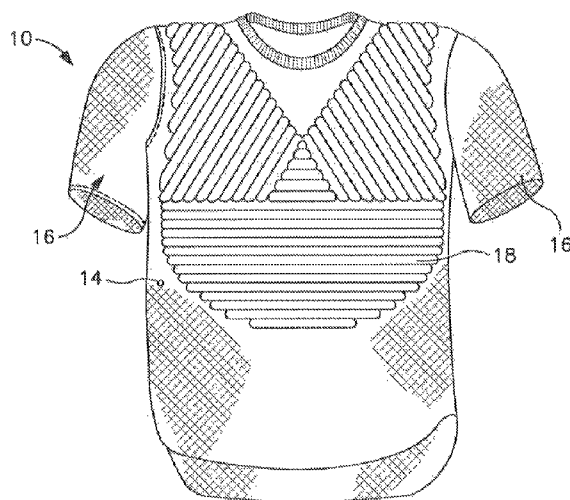


FIG. 1

(57) Abstract: An energy absorbing member that contains a porous polymeric material is provided. The polymeric material is formed from a thermoplastic composition containing a continuous phase that includes a matrix polymer and within which a microinclusion additive and nanoinclusion additive are dispersed in the form of discrete domains. A porous network is defined in the material that includes a plurality of nanopores having an average cross-sectional dimension of about 800 nanometers or less.

WO 2014/199277 A1



TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, **Published:**
KM, ML, MR, NE, SN, TD, TG).

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