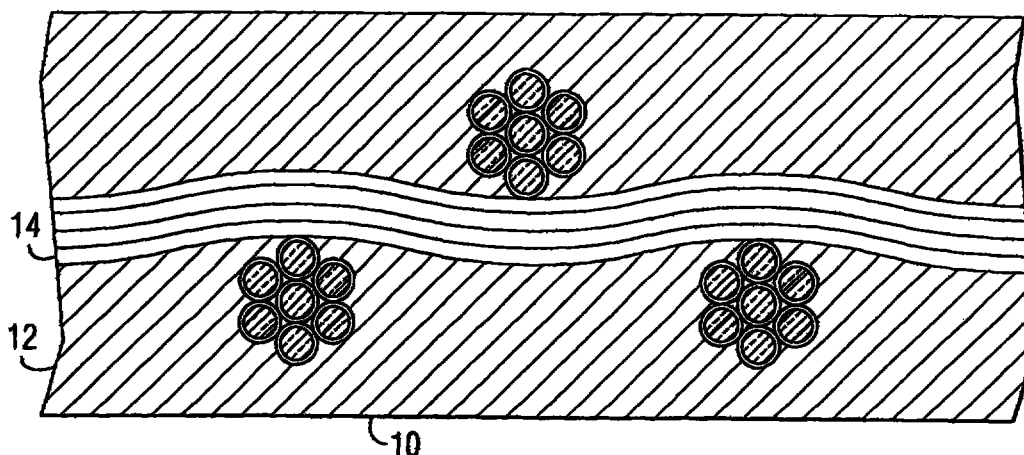




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁷ : C03C 25/10, C08J 5/08, H05K 1/03		A1	(11) International Publication Number: WO 00/21900
			(43) International Publication Date: 20 April 2000 (20.04.00)
(21) International Application Number: PCT/US99/21443		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).	
(22) International Filing Date: 8 October 1999 (08.10.99)			
(30) Priority Data: 09/170,578 13 October 1998 (13.10.98) US 60/133,076 7 May 1999 (07.05.99) US 60/133,075 7 May 1999 (07.05.99) US 60/146,337 30 July 1999 (30.07.99) US			
(71) Applicant (for all designated States except US): PPG INDUSTRIES OHIO, INC. [US/US]; 3800 West 143rd Street, Cleveland, OH 44111 (US).		Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>	
(72) Inventors; and			
(75) Inventors/Applicants (for US only): NOVICH, Bruce, E. [US/US]; 1035 Highmont Road, Pittsburgh, PA 15232 (US). ROBERTSON, Walter, J. [US/US]; 28 Shannopin Drive, Pittsburgh, PA 15202 (US). VELPARI, Vedagiri [US/US]; 230 Old Haymaker Road, Monroeville, PA 15146 (US). LAMMON-HILINSKI, Kami [US/US]; 617-2 Center Avenue, Aspinwall, PA 15215 (US). LAWTON, Ernest, L. [US/US]; 3432 Kilcash Drive, Clemmons, NC 27012 (US).			
(74) Agents: SIMINERIO, Andrew, C.; PPG Industries, Inc., One PPG Place, Pittsburgh, PA 15272 (US) et al.			

(54) Title: GLASS FIBER-REINFORCED PREPREGS, LAMINATES, ELECTRONIC CIRCUIT BOARDS AND METHODS FOR ASSEMBLING A FABRIC



(57) Abstract

One aspect of the present invention is a prepreg for an electronic support, the prepreg comprising: (a) a polymeric matrix material; and (b) a fabric comprising a strand comprising glass fibers, at least a portion of the fabric having a coating which is compatible with the polymeric matrix material, the prepreg having a drill tip percent wear of no greater than about 32 percent, as determined after drilling 2000 holes through a stack of 3 laminates, each laminate including eight of the prepregs, at a hole density of 62 holes per square centimeter (400 holes per square inch) and a chip load of 0.001 with a 0.46 mm (0.018 inch) diameter tungsten carbide drill. The present invention also provides a laminate incorporating the prepreg. Another aspect of the present invention is a prepreg for an electronic support, the prepreg comprising: (a) a polymeric matrix material; and (b) a woven reinforcement fabric comprising glass fibers, at least a portion of the fabric having a coating which is compatible with the polymeric matrix material, the prepreg having a deviation distance of no greater than about 36 micrometers, as determined after drilling 2000 holes through a stack of 3 laminates at a hole density of 62 holes per square centimeter (400 holes per square inch) and a chip load of 0.001 with a 0.46 mm (0.018 inch) diameter tungsten carbide drill. The present invention also provides a laminate incorporating the prepreg.