

## References

- Borysiak S, Doczekalska B. The influence of chemical modification of wood on its nucleation ability in polypropylene composites. *Polimery* 2009; 54: 820-827.
- Bhaskar J, Haq S, Pandey AK, Srivastava N. Evaluation of properties of propylene-pine wood Plastic composite. *J. Mater. Environ. Sci.* 2012; 3: 605-612.
- Sanjay MR, Madhu P, Jawaid M, Senthamaraikannan P, Senthil S, Pradeep S. Characterization and properties of natural fiber polymer composites: A comprehensive review. *J. Clean. Prod.* 2018; 172: 566-581.
- Ansari F, Granda LA, Joffe R, Berglund L, Vilaseca F. Experimental evaluation of anisotropy in injection molded polypropylene/wood fiber biocomposites. *Compos. Part. A-Appl. S.* 2017; 96: 147-154.
- Borysiak S, Paukszta D, Helwig M. Flammability of woodepolypropylene composites. *Polym. Degrad. Stabil.* 2006; 91: 3339-3343.
- Girones J, Vo L, Haudin J, Freire L, Navard P. Crystallization of polypropylene in the presence of biomass-based fillers of different compositions. *Polymer* 2017; 127:220-231.
- Thakur V, Thakur M. Processing and characterization of natural cellulose fibers/thermoset polymer composites. *Carbohydr. Polym.* 2014; 109: 102-117.
- Yáñez-Pacios AJ, Martín-Martínez MJ. Surface modification and improved adhesion of wood-plastic composites (WPCs) made with different polymers by treatment with atmospheric pressure rotating plasma jet. *Int. J. Adhes. Adhes.* 2017; 77: 204-213.
- Joffre T, Segerholm K, Persson C, Bardage S, Luengo Hendriks C, Isaksson P. Characterization of interfacial stress transfer ability in acetylation-treated wood fibre composites using X-ray microtomography. *Ind. Crop. Prod.* 2017; 95: 43-49.
- Revol JF, Goring D A I. On the mechanism of the mercerization of cellulose in wood. *J. Appl. Polym. Sci.* 1981; 26: 1275-1282.
- Borysiak S. Fundamental Studies on Lignocellulose/Polypropylene Composites: Effects of Wood Treatment on the Transcrystalline Morphology and Mechanical Properties. *J. Appl. Polym. Sci.* 2013; 127: 1309-1322.
- Hill C A S. Wood Modification. Chemical, Thermal and Other Processes. Chichester: John Wiley & Sons Ltd; 2006.
- Burley J, editor. Encyclopedia of forest sciences. Oxford: Elsevier Ltd; 2004.
- Dányádi L, Janecska T, Szabó Z, Nagy G, Móczó J, Pukánszky B. Wood flour filled PP composites: Compatibilization and adhesion. *Compos. Sci. Technol.* 2007; 67: 2838-2846.
- Wang C, Liu CR. Transcrystallization of polypropylene composites: nucleating ability of fibres. *Polymer* 1999; 40: 289-298.
- Quan H, Li Z, Yang M, Huang R. On transcrystallinity in semi-crystalline polymer composites. *Compos. Sci. Technol.* 2005; 65: 999-1021.
- Huanga J, Xua C, Wu D, Lv Q. Transcrystallization of polypropylene in the presence of polyester/cellulose nanocrystal composite fibers. *Carbohydr. Polym.* 2017; 167: 105-114.
- Wang K, Guo M, Zhao D, Zhang Q, Du R, Fu Q, Dong X, Han C. Facilitating transcrystallization of polypropylene/glass fiber composites by imposed shear during injection molding. *Polymer* 2006; 47: 8374-8379.
- Wang C., Liu CR. Transcrystallization of polypropylene on carbon fibres. *Polymer* 1997; 38: 4715-4718.
- Wan Y, An F, Zhou P, Liu Y, Lu C, Chen H. Effect of the polymorphs of cellulose on its pyrolysis kinetic and char yield. *J. Anal. Appl. Pyrol.* 2017; 127: 223-228.
- Chen X, Chen J, You T, Wang K, Xu F. Effects of polymorphs on dissolution of cellulose in NaOH/ureaqueous solution. *Carbohydrate Polymers* 2015; 125: 85-91.
- Gupta PK, Uniyal V, Naithani S. Polymorphic transformation of cellulose I to cellulose II by alkali pretreatment and urea as an additive. *Carbohydr. Polym.* 2013; 94: 843-849.
- Gray DG. Polypropylene transcrystallization at the surface of cellulose fibers. *Polym. Lett.* 1974; 12: 509-515.
- Quillin DT, Caulfield DF, Koutsky JA. Crystallinity in the polypropylene/cellulose system. I. Nucleation and crystalline morphology. *J. Appl. Polym. Sci.* 1993; 50: 1187-1194.
- Felix JM, Gatenholm P. Effect of transcrystalline morphology on interfacial adhesion in cellulose/polypropylene composites. *J. Mater. Sci.* 1994; 29: 3043-3049.
- Hindeleh A M, Johnson D J J. The resolution of multiplex data in fibre science. *Phys. Appl. Phys.* 1971; 4: 259-263.
- Rabiej S. A comparison of two X-ray diffraction procedures for crystallinity determination. *Eur. Polym. J.* 1991; 27: 947-954.
- Oka D, Kobayashi K, Isobe N. et al. Enzymatic hydrolysis of wood with alkaline treatment. *J Wood Sci.* 2013; 59: 484.
- Borysiak S. A study of transcrystallinity in polypropylene in the presence of wood irradiated with gamma rays. *J. Therm. Anal. Calorim.* 2010; 101: 439-445.
- Borysiak S, Garbarczyk J. Applying the WAXS method to estimate the supermolecular structure of cellulose fibres after mercerization. *FIBRES & TEXTILES in Eastern Europe* 2003; 11, 5(44): 104-106.
- Dinand E, Vignon M, Chanzy H, Heux L. Mercerization of primary wall cellulose and its implication of cellulose I → cellulose II. *Cellulose* 2002; 9:7-18.
- Amash A, Zugenmaier P. Morphology and properties of isotropic and oriented samples of cellulose fibre-polypropylene composites. *Polymer* 2000; 41: 1589-1596.
- Lenes M, Gregersen OW. Effect of surface chemistry and topography of sulphite fibres on the transcrystallinity of polypropylene. *Cellulose* 2006; 13: 345-355.
- Arbelaiz A, Fernandez B, Ramos JA, Mondragon I. Thermal and crystallization studies of short flax fibre reinforced polypropylene matrix composites: Effect of treatments. *Thermochimica Acta* 2006; 440: 111-121.
- Lee BG, Lee S, Via BK. Influence of surface morphology of the kraft pulp fibers on the growth of the transcrystalline layer of polypropylene. *J. Appl. Polym. Sci.* 2010; 116: 1958-1966.
- Ishikawa A, Okano T, Sugiyama J. Fine structure and tensile properties of ramie fibres in the crystalline form of cellulose I, II, III and IV. *Polymer* 1997; 38: 463-468.
- Wittman JC, Lotz B. Epitaxial crystallization of polymers on organic and polymeric substrates. *Prog. Polym. Sci.* 1990; 15: 909-948.

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