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Keywords: polypropylene, colemanite, filled, composites, tensile properties
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TENSILE PROPERTIES OF POLYPROPYLENE/COLEMANITE COMPOSITES

Neşe Bahçeci [1], Şenol Şahin [2], Tülin Şahin [2]
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In this study, effect of Colemanite substance of sieve particle size of 75 µm and of average particle size of 20.6 µm, on density and tensile properties of PP used in pipe manufacturing is studied. The granules are prepared in a twin screw corotating extruder by adding different weight percentages (0, 5, 7.5, 10, 12.5, 15, 17.5, 20 and 22.5) of Colemanite. In order to obtain standart tensile bars, these granules are subsequently molded by using an injection molding machine. Effect of Colemanite substance on PP's density and tensile properties are examined by density and tensile tests performed on tensile samples. Experiments indicate that for the range of minimum 5% and maximum 22.5% colemanite filled PP composites, their density increase PP's density depending on filler amount similar to other conventional filling substances and also their experimental density matche up with theoretical density values. Additionally, it is determined that it affects elasticity modulus, yield stress and yield strain like other conventional filling substances depending on the addition and increasing filler amount partially in a similar way but with different intensities (rates). Moreover, it is determined that it does not affect breaking stress and strain like other conventional filling substances, colemanite amount added and breaking stress does not change partially, it decreases partially with increasing colemanite filling amount but at 22.5% filling rate in terms of weight it decreases only 12%. On the other hand while colemanite amount added increases breaking strain by 280%, it is observed that increasing colemanite filling amount partially shows an intension to decrease but it increases 250% even at 22.5% filling rate in terms of weight, as compared to pure PP.

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OPO015
FRACTURE TOUGHNESS BEHAVIOR OF AL/SICP COMPOSITES AND ALUMINUM 5XXX ALLOYS - NDE BY HEAT WAVE DETECTION
Dimitrios Myriounis, *Syed Hasan*
Sheffield Hallam University Engineering & Maths Sheffield-United Kingdom

Convention Lower Hall 3 - 13:00-15:00

PMO SESSION 2
Chair: Deniz Uzunsoy
co-Chair: Mehmet Sunar

PMO029
TENSILE PROPERTIES OF POLYPROPYLENE/COLEMANITE COMPOSITES
Neşe Bahçeci [1], Şenol Şahin [2], Tülin Şahin [2]
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PMO014
PROCESS OPTIMIZATION BY DESIGN OF EXPERIMENTS: MICRO-COMPOUNDING AND INJECTION MOLDING OF PPS COMPOSITES
ONUR ÇOBAN [1], MUSTAFA ÖZGÜR BORA [1], BURCU ÖZCAN [2], EGEMEN AVCU [1], TAMER SINMAZÇELİK [3]
MECHANICAL KOCAELI-Turkey [1], INDUSTRIAL KOCAELI-Turkey[2], MECHANICAL KOCAELI-Turkey [3]

PMO015
A QUANTITATIVE RISK ASSESSMENT APPROACH FOR THE ENVIRONMENTAL IMPACT OF THE TANK FIRE
Rachida HAMZI [1], Fares INNAL [1], Noureddine BOURMADA [1], Henry LONDICHE [2]
University of Batna Institute of Health and Industrial Safety Batna-Algeria [1] Saint Etienne Graduate Engineering School Saint Etienne-France [2]

PMO016
POROUS HYDROXYAPATITE–ZIRCONIA COMPOSITES PREPARED BY POWDER DEPOSITION AND PRESSURELESS SINTERING
Eko Pujiyanto [1], Alva E. Tontowi [1], Wildan M. Waziz [1], Siswomihardjo Widowati [2]
Gadjah Mada University Mechanical and Industrial Engineering Department y-Indonesia [1] Gadjah Mada University Dentistry Faculty Yogyakarta-Indonesia [2]

PMO060
MANUFACTURING OF THIN-SHELL OFFSET DEMONSTATOR REFLECTOR
Ömer Soykasap [1], Şükrü Karakaya [2], Durmuş Türkmen [3]
Afyon Kocatepe University Mechanical Engineering Afyonkarahisar-Turkey [1] Afyon Kocatepe University Mechanical Education Afyonkarahisar-Turkey [2] Pamukkale University Mechanical Engineering Denizli-Turkey [3]

PMO073
INVESTIGATION OF A FUEL INJECTOR USING TERFENOL-D
Nader Garjasi varzeghani [1], Mojtaba Ghodsi [2], Yousef Hojjat [2], Mohammad Reza Sheykholeslami [2], Hesam Sadeghian firooz abad [2], Shahed Mirzamohammadi [2]
Tarbiat Modares University Mechanical Department Tehran-Iran [1] Tarbiat Modares University Mechanical Department; Tehran-Iran [2]

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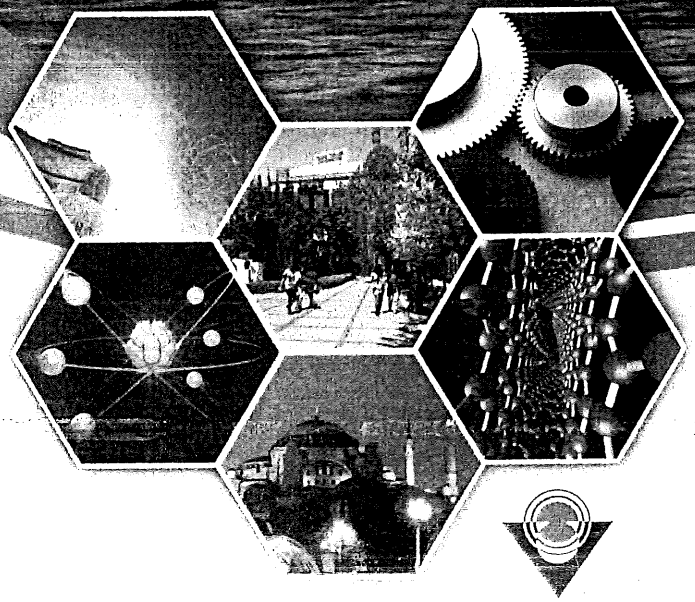

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