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| **Conference Tools for Materials Science & Technology 2012** |

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| **About this Abstract** |
| **Meeting** | **Materials Science & Technology 2012** |
| **Symposium**  | **Green Technologies for Materials Manufacturing and Processing IV**  |
| **Presentation Title** | The Effect of Adding Metakaolinite and Porcelenite on Geopolymers Produced from Untreated Kaolinite |
| **Author(s)** | Hani Nicola Khoury, Muayad Esaifan, Faten Slaty, Islam Aldabsheh, Hubert Rahier, Jan Wastiels |
| **On-Site Speaker (Planned)** | Hani Nicola Khoury |
| **Abstract Scope** | A geopolymerization process was developed by activating local raw kaolinite with quartz and tuff fillers and alkaline sodium hydroxide solution. The geopolymers were cured at 80 °C for 24 hr. The increase of silica sand has improved the workability of the mixture. The addition of metakaolinite and porcelanite (opal-ct) has removed excessive salts and has also increased the compressive strength (higher than 50 MPa for dry conditions). The results have confirmed that natural kaolinite satisfy the criteria to be used as a precursor for the production of high quality inexpensive, stable materials. The produced geopolymers proved to be highly durable under different physical and chemical conditions. The high strength, heat resistance, low production cost, low energy consumption, and low CO2 emissions suit the use of the geopolymers as a substitute of Portland cement and ceramics. |
| **Proceedings Inclusion?** | Planned:  |

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| **About this Conference** |
| **Meeting** | **Materials Science & Technology 2012** |
| **Dates** | 10/07/2012 - 10/11/2012 |
| **Location** | Pittsburgh, PA, USA |
| **Scope** | MS&T '12 is the most comprehensive forum for materials science and engineering technologies. Attendees learn from materials specialists, explore diverse materials applications, and experience the synergy of this materials community! MS&T crosses the boundaries of most materials events by bringing together a broad range of technical sessions and expertise through the strengths of four major materials organizations: The American Ceramic Society, Association for Iron & Steel Technology, ASM International, and The Minerals, Metals & Materials Society. The expansive technical program is coupled with an impressive exhibition of innovative technologies with every industry in materials science represented. Be a part of this exciting, growing event!  |
| **Conference Chair** |  |
| **Meeting Home Page** | [**http://matscitech.org**](http://matscitech.org) |