DEVELOPMENT OF ADHESIVE MATERIAL WITH INCREASED ADHESION AFTER HEAT EFFECT

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Key words: Adhesive Materials, Ceramic Tiles, By-products, PE-HD granulate, Fly-ash

Summary.
This study was focused on the development of new adhesive material for ceramic tiles; new formulas were presented in order to improve selected properties. Attention was focused on increasing the flexibility of the adhesive material and the adhesion of ceramic tiles after heat effect, which are properties particularly important in underfloor heating applications. A flooring system consisting of underfloor heating and with tiles as surface paving is a typical multi-layer element that combines materials of different characteristics whose interaction is affected by thermal and moisture expansion. The designed mixtures used granulated PE-HD (Polyethylene High Density) as partial replacement of filler but also waste products such as rubber granulate from used tires and power-plant fly ash. The results of this study confirmed the possibility of effective use of alternative fillers, which helped to improve the final properties; they allow reducing environmental burden as well as the price of final products.