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Manufacturing of gasket sheet using paper manufacturing process without organic solvent

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This paper is about ceramic gasket manufacturing technology that can be used in extreme temperatures. This gasket is manufactured using ceramic fiber and talc as main raw materials, and inorganic content is about more than 95 percent. Therefore, gasket has thermal stability, chemical and corrosion resistance and superior properties. So the chemical plant, high pressure thermal processing, streamlines and can be used. In this study, paper manufacturing method applied for preparation of the ceramic gasket sheet and its new economic process will be discussed. Inorganic fiber, talc and binders evenly distributed in the water for manufacture the gasket. Then dehydration on the wire mesh by supplying the slurry, and compression, through drying process completed the gasket for extreme temperature. The characteristics of manufactured product during the experiment like tare density was 1.88g/cm^3, tensile strength was 0.15 kg/mm^2, compressibility 39%, recovery 17% and ignition loss 6.55% at 1,000°C. And there was no pressure drop when subjected to 150 LB (two inch) 10 kgf/cm^2 nitrogen for 10 minutes. All the additives are being evenly distributed to the surface of the gasket, and each other's bonds have been completed successfully, and the applicability by paper manufacturing process.

Solvent free gasket manufacturing process

1) All gasket materials such as water-based latex, mineral fiber and fillers are easily in water and evenly distributed.

2) Was dehydration a lot of influence on the size of the cohesion within the slurry in forming process.

3) An example a continuous process for a product is as follows: Mixture of raw materials→forming and dehydration→third stage compression→two stage drying → third stage calendering→rolling

4) New process is no odor is a clean work environment.

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Biography

Yoonjong Yoo's Major Research Fieldare Honeycomb adsorbents for VOC, CO_2, humidity adsorption, Ceramic paper, Zeolite paper, Active carbon paper for adsorption materials, Carbon (chopped)fiber paper and mat for GDL and plane heater and Solvent free gasket manufacturing process for high temperature using. And working at Korea Institute of Energy Research(KIER).

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