5<sup>th</sup> World Congress on

## CATALYSIS AND CHEMICAL ENGINEERING

September 05-06, 2018 Tokyo, Japan

## Effect of adding porcelain on properties of porous ceramic based on Electromelted Corundum (EMC)

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There was obtained a highly porous cellular material of alumina carriers for catalysts. The filler used to be electro corundum, as reinforcing filler, forming on fire a bundle used porcelain. The samples were prepared by impregnating the ceramic slurry polyurethane foam (PUF), followed by drying and calcining at 1450 °C. The porosity after firing was 60 - 65 %, the compressive strength of 3.5 MPa.

**Introduction:** Porous materials are commonly used as catalyst supports in the processes of oxidation, hydrogenation and dehydrogenation at high temperature, corrosion in feed processing - corrosive environments at endothermic and exothermic reactions. The second area of application is the field, where the decisive property of a material is its porous structure and related properties, mainly the size of pores and their permeability, specific surface, etc. Important areas of application of porous permeable ceramics are catalysis, filtration, aeration, distribution of gases, diffusion, electrolysis, etc. In particular, for this purpose, various types of corundum materials with high chemical inertness. Porosity materials due to the high porosity and the peculiar structure have specific properties dramatically different from those of the corresponding chemical composition of dense materials. The main purpose of the work is to obtain porous, permeable ceramics based on electro corundum ( $Al_2O_3$ ) for filter substrates and membranes and porosity is not less than 90 %, as well as high mechanical strength and firing temperature should not exceed 1550 °C.

**Summary:** We can get the best strength of the materials at temperature 1450 °C. It was found that samples of highly porous materials with a cellular structure based on  $Al_2O_3$  with a grain size of (0.04-0.06 mm) and a reinforcing component porcelain (0.063 mm) and the best composition is 50 % - 50 % with mesh size  $0.3 \sim 0.5 \sim 0.8$  mm and 1 mm at temperature 1450 °C.

## **Biography**

Zaw Ye Maw Oo (Myanmar) is from D. Mendeleev University of Chemical Technology of Russia. Now he is attending doctoral studies by government scholarship in that university. He has published more than 30 papers in reputed journals.

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