In this study, the usability as aggregate of waste marble dust investigated in the polymer concrete technology. In test, marble dust divided to 7 sieve ranges, which is under the 0.075 mm, between 0.075 with 0.150 mm, 0.150 with 0.180 mm, 0.180 with 0.425 mm, 0.425 with 0.600 mm, 0.600 with 1.180 mm, 1.180 with 2.360 mm, 2.360 with 4.000 mm. Polymer concretes were produced by mixing each dust of sieve range together with polyester resin, polipol 34 as filler type polyester, total 7 series concrete. Standard mixing and produced process was applied to each series concrete. Physico-mechanical analyzes were carried out on produced samples. These analyzes are wet unit weight, dry unit weight, compressive and flexural strength, water absorption, ultrasonic pulse velocity and Schmidt surface hardness. According to the experimental results, changes of polymer concrete properties were examined depending on the size of the marble dust particle. The high physical and mechanical properties were obtained from samples using as phase of marble powder in the 0075-0150 mm grain size range.