In this paper amorphous and crystalline particulate calcium carbonates, with diameters ranging from 10 to 55\(\mu\)m was surface treated and functionalized with poly (maleic anhydride-alt-1-octadecene) to decrease their surface energy, and improve their interfacial adhesion with thermoplastic polymer matrices, such as polyolefins. The morphology of the functionalized particles was characterized by SEM coupled with EDS, evidencing an optimum coating with the oligomer, XRD and FTIR spectroscopy, evidencing a decrease in surface crystallinity of the particles and respectively physical bonding with the functionalizing agent.