

The effects of the additives on the adhesive performances of the silicone PSAs

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The pressure sensitive adhesives (PSAs) have drawn much attention as adhesives for their intrinsic tackiness and the high peel strength. There were mainly four types of PSAs : acrylic, silicon, rubber and emulsion. Among them, silicone PSA showed the excellent thermal stability even though its adhesion was rather smaller than others. To overcome this, the tackifier known as a MQ resin and other additives were added. Here we have investigated the effect of six additives on the adhesion of silicone PSA. The ratio of silicone PSA/additives was 1 to 0.05 by weight. For the reference, the peel strength of the silicone PSA without additives was measured to be 603 gf/in. The use of allyl cyanide, glycidyl methacrylate and vinyltrimethoxysilane as additives enhanced the peel strength of the PSAs. In order to optimize the adhesion, the amount of the allyl cyanide was adjusted. This resulted in the highest peel strength when the ratio of silicone PSA/allyl cyanide was 1 to 0.05 by weight.