

Performance of the UV Ozone treatment on the surface of some polymer(R2)

Conditions : Test equipment: UV/Ozone Surface processor (SSP16-110)
 Gap between an lamp and the work : 30mm,
 UV irradiance : 15.9mW/cm² (254nm)

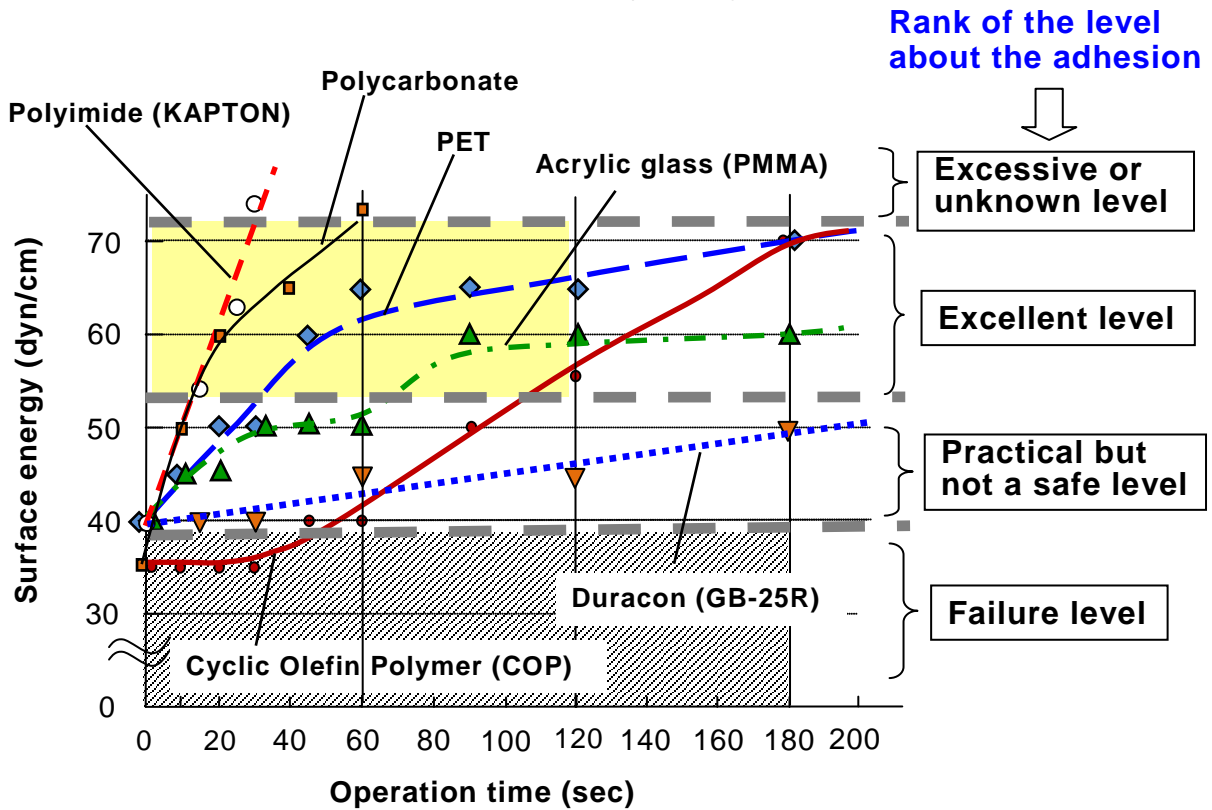


Fig . Change of the surface energy by UV/Ozone Surface Treatment

Table. Ranking of surface energy dyne level concerning to the adhesion

Ranking of feasibility	Surface tension (Dyn/cm)	Performance of the adhesion
Failure level	< 38	Surface tension level is too low to achieve a practical adhesion force.
Practical but uncertain level	39–50	Dyne level which can achieve practical adhesion force. However, it is not a safe level; it may lead to lack of adhesion force due to effects of storage conditions after surface treatment or other inappropriate handling.
Excellent level	54–72	This level enables maintaining adhesiveness during storage for as long as several weeks and can avoid effects by uncertainty of measurements of surface tension.
Excessive or unknown level	> 72	Caution! not to overdose the modification of the surface, or the surface energy of a substrate and glue will be reversed. This leads to get worse the surface adhesiveness again.
Angle of a water drop & Surface tension	72	This dyne value is equal with 0 degree contact angle of water drop on a hyper clean glass. It shows the status where molecular layer of organic contamination became thinner and a part of substratum of glass started to be exposed.