

## work of adhesion

**Also contains definition of:** work of separation

The work of adhesion per unit area,  $w_A^{\alpha\beta\delta}$ , is the work done on the system when two condensed phases  $\alpha$  and  $\beta$ , forming an interface of unit area are separated reversibly to form unit areas of each of the  $\alpha\delta$ - and  $\beta\delta$ - interfaces.

$$w_A^{\alpha\beta\delta} = \gamma^{\alpha\delta} + \gamma^{\beta\delta} - \gamma^{\alpha\beta}$$

where  $\gamma^{\alpha\beta}$ ,  $\gamma^{\alpha\delta}$  and  $\gamma^{\beta\delta}$  are the surface tensions between two bulk phases  $\alpha$ ,  $\beta$ ;  $\alpha$ ,  $\delta$  and  $\beta$ ,  $\delta$  respectively. The work of adhesion as defined above, and traditionally used, may be called the work of separation.

**Source:**

PAC, 1972, 31, 577 (*Manual of Symbols and Terminology for Physicochemical Quantities and Units, Appendix II: Definitions, Terminology and Symbols in Colloid and Surface Chemistry*) on page 597