



## **Global Resources Inc.**

# ***FITTING ADHESIVE WEIGHTS TO NEW OR REFURBISHED ALLOY WHEELS***

### **Essential Guidance...**

New or refurbished alloy rims may have coatings and lacquers applied to the alloy surface. Also, when the rim paint is being dried, waxes can come to the surface creating a low surface energy (non-stick) and not allowing the adhesive weight to properly bond to the rim.

For this reason, it is essential to clean the rims where the weight is to be applied to ensure that there are no traces of chemicals on the surface (eg wax or silicon). Failure to clean the rim can lead to adhesive weights falling off within days of fitment, causing balancing failure.

Wet wipes are recommended for rim cleaning containing an appropriate cleaning agent (eg isopropanol). On weight application, the wheel rim should be dry and be at a minimum temperature of **16°C / 60°F**. After removal of the backing liner, the weight should be fitted immediately and a minimum 60N pressure applied for approximately 10-15 seconds as tape pressure is required to enable good bonding. Typically, this can be achieved by hand pressure but may not be reliable. The adhesive should not be touched before fitment to the rim.

Even with good surface cleaning, problems have been found whereby over time (a few days or up to 3 weeks) good initial adhesion can deteriorate to an extent where the weight can fall off. This can be caused by the leaching of low surface energy substances (eg wax) coming through the freshly painted rims over time. Should such an event occur, it is necessary to investigate the paint or lacquer used to ensure that at all times the surface energy where the adhesive weight is fitted is above a recommended 36 dynes. Adhesives will only work if the surface energy (measure in dynes) is sufficiently high to ensure a good chemical bond.

Initial bond is typically achieved approximately 15 minutes after fitment; maximum bond strength may not be achieved until 24/72 hours after fitment. It is recommended to store adhesive weights in a cool dry location away from direct sunlight and they should be used within 1 year of purchase.

Depending on the wheel radius, there may be a small visible gap between the adhesive and the rim, either on the centre or to the outer edges of the weight. This is due to radii difference as the weight fitment meets a compromise on various rim sizes. The balance weights have been tested to withstand a minimum shear force to Original Equipment standards and, whilst desirable, it is not essential to have the adhesive in contact across all the surface to achieve specification.