



## **STORAGE GUIDELINES** **NOVEMBER 23 REVISION**

RunFlats or complete wheels fitted with tyres and RunFlats but not under load (not on a vehicle) should be stored in accordance with the below guidelines which are based on the ETRTO recommendations on storage dated 2013. RunFlat International may reject any warranty claim on the products which were not stored in accordance with these guidelines.

This recommendation applies to all RunFlats or tyres stored for any period whether fitted on rims or not. In view of the potential influence of temperature, humidity, light, heat, ozone and chemical agents on RunFlats and tyres, the following storage recommendations are made.

### **Humidity**

Moist conditions should be avoided. Care must be taken to ensure no condensation occurs. Whenever possible, tyres and wheels should be stored inside in cool, dry and moderately ventilated conditions.

Once installed inside tyres, the RunFlats do not require specific checks other than the routine inspections specified by RunFlat International.

Tyres, wheels or RunFlats should not be stored outdoors and they should not be subject to water exposure such as rain or floods.

### **Light**

There should be protection from sunlight and strong artificial light with a high ultra-violet content.

## **Temperature**

The storage temperature should be below 35°C and preferably below 25°C but above 10°C. Direct contact with pipes and radiators must be avoided.

The effects of extreme high and low temperatures may lead to shortened tyre, wheels and RunFlat life.

## **Oxygen, ozone and chemical agents**

As ozone is particularly harmful, storage rooms should not contain any equipment generating ozone such as fluorescent lighting with high ultra-violet content, mercury vapor lamps, electrical machines or other equipment which may produce sparks or other electrical discharges. Combustion gases and vapors which may produce ozone via photo-chemical processes should also be excluded.

Solvents, fuels, lubricants, chemicals, acids, disinfectants and the like should not be kept in the storage rooms. Rubber solutions should be stored in a separate room and the administrative regulations on the storage and handling of inflammable liquids must be observed.

## **Deformation**

Products should be stored in a relaxed condition free from tension, compression or other forces causing permanent distortion.

## **Rotation of stocks**

Storage time for never mounted tyres, wheels or RunFlats is to be minimized and an appropriate First In - First Out (FIFO) procedure should be implemented to minimise the life spent in storage.

## **Tyre storage methods**

Tyres can be stored in an upright position in a single layer on shelf racks. Tyres can also be stored interlaced (fishbone) as well as stacked horizontally (stovepipe) one on top of another but in this case the height of the stacks or interlacing should be limited to avoid permanent deformation of the tyres on the bottom layers as well as any stability issues.

When fitted on rims, tyres should be preferably stored inflated in an upright position or in a single layer on shelf racks. Tyres can be also stacked horizontally (stovepipe) one on

top of the other, but in this case the height of the stacks should be limited to avoid any stability issues.

### **Transport conditions**

All before mentioned storage methods apply as well for transport. When wheels, tyres and RunFlats must be transported in closed containers which are not air-conditioned the duration of storage should be limited as much as possible to avoid potential degradation. In case of obvious visual tyre deformation, time should be allowed to recover to original shape when inflated.

### **Tyre inflation & pressure**

It is strongly recommended that fitted tyres which are to be stored should be inflated with Nitrogen. If air is used then it must be as dry as possible before it enters the tyre. Ensure that a valve cap is fitted to the valve.

Tyres on vehicles resting on the ground should be at the normal pressure for the vehicle. Every six months, that pressure should be checked and corrected as necessary. Every four months, the tyres should be rotated  $\frac{1}{4}$  turn. The tyres should be driven for a distance every year until any 'flat spotting' disappears.

Tyres on vehicles suspended off the ground or spare tyres in storage should be deflated to approximately half the normal pressure for the vehicle.

A procedure must be established to ensure that tyres which have been in storage at reduced pressure are correctly re-inflated when they are returned to service.

### **Additional Storage Information for tyres fitted to rims / vehicles**

It is recommended that fitted tyres which are to be stored should be inflated with Nitrogen. If air is used then it must be as dry as possible before it enters the tyre. Ensure that a valve cap is fitted to the valve.

Tyres on vehicles resting on the ground should be at the normal pressure for the vehicle. Every six months, that pressure should be checked and corrected as necessary. Every four months, the tyres should be rotated  $\frac{1}{4}$  turn. The tyres should be driven for a distance every year until any 'flat spotting' disappears.

Tyres on vehicles suspended off the ground should be deflated to approximately half the normal pressure for the vehicle.

Spare tyres in storage should also be deflated to approximately half the normal pressure for the vehicle.

A procedure must be established to ensure that tyres which have been in storage at reduced pressure are correctly re-inflated when they are returned to service.

Any tyre which has been stored should be visually inspected by competent personnel before entering or re-entering service.

## **RunFlat International Limited**

**Gawne Lane, Cradley Heath, West Midlands, B64 5QY United Kingdom**

**Telephone: - +44 (0) 1384 414845 Fax: - +44 (0) 1384 414849**

**E-mail: -info@runflatinternational.com Web Site: -www.runflatinternational.com**