

## **PAD BEDDING**

The aim of bedding is to bring the pads to full race temperatures, but gradually (too quickly results in glazing). This is done by a series of applications upto race speeds, but in which lighter braking pressures are used (i.e. the driver applies the brakes earlier). It is important that the pads are allowed to cool between the bedding and racing. But if time does not allow, they can be used immediately though less product life, possibly 10%, should be expected.

Note that those pads whose part number includes the suffix WB, ZB or GB have undergone an intense thermal treatment up to full bedding temperatures during their production. In these cases the same general procedure is to be applied as below but arriving at the 500°C target temperature is not critical. The number of applications may also be reduced. In these thermally treated compounds, bedding is required only as mechanical mating of pad and disc.

Ideally the pads will arrive at temperatures in excess of 500°C during the bedding. Pads smoking during the cool-down is not a cause for concern. Specifically for DS1.11, DS3.12 and DSUNO temperatures should arrive at between 500°C and 700°C (as an indication: green thermal paint applied to discs should completely change and from half to all of the orange paint should change.)

It may be necessary to close cooling ducts during the bedding to achieve sufficiently high temperatures.

Perform at least 15 trial brake applications, initially with reduced pressures (around 50% of the normal that might be used for that same brake application were it to occur under race conditions) building up to full decelerations after the 15 applications. To shorten the procedure applications can be made along the straights as well as at corners.

On completion of the trial applications, return to a service point and let the pads cool and then inspect the surface of the brake pads from the two wheels that have been working the hardest. There should be evidence of contact over the full pad area, but without glazing. The pads are now ready to race.

Whilst it is recommended that pads are inspected after bedding, time may not allow this. But as long as the gradual build-up procedure has been carried out correctly and a short period of time has elapsed to allow the brake system to cool (ideally to below 100°C - this might take in excess of five minutes), the pads will be ready to race.

To illustrate these principles please consider the figures below:

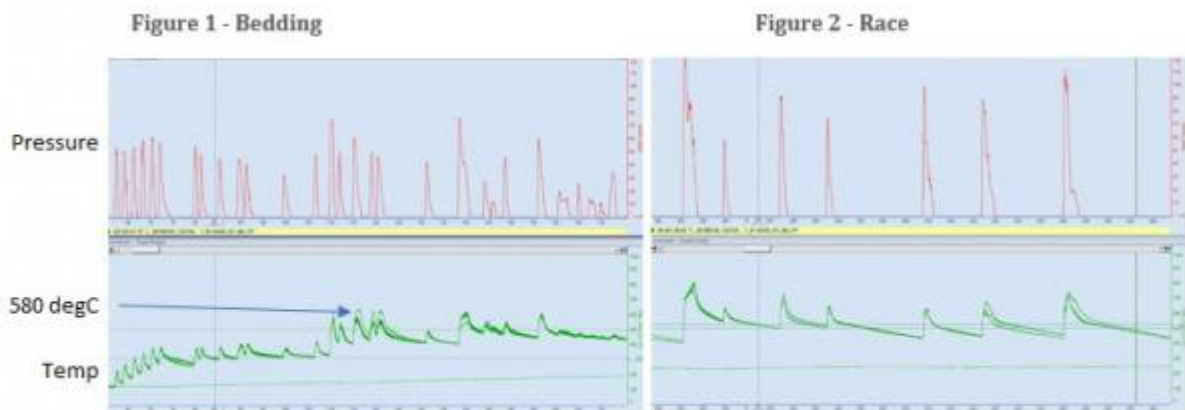
**Figure 1** below shows data from a GT3 car during bedding.

**Figure 2** is from the same car under race conditions on the same circuit.

The red plot shows brake pressure against time; the green plot shows disc temperature against time.

The red plots show the brake pressures during the bedding-in cycle at around 50% of those seen in race conditions.

The gradual build-up of temperature during the bedding can be seen peaking at 580°C, which is quite close to the full race temperature.



**Figures 3** and **4** below illustrate the appearance of DS3.12 pads that have been properly bedded-in. The pad surface is even, with a dull sheen



**Figure 3**



**Figure 4**

**Figure 5** – Example of DS3.12 pad that has not been properly bedded. In this case the final disc temperatures reached were not sufficient and/or insufficient applications were made to allow mechanical mating. In this case the pad surface has a non-uniform appearance and these streaks may have a glassy appearance.

