**Off site lap shear specimen preparation**

**Specimens required:** 5 joints  
(or 2 complete bonded plates which can be sliced into five specimens)

**Equipment required:**  
- Pre-cut composite adherends (either individual coupons or large plates)  
- Bondline spacers – e.g. ballotini (glass spheres)  
- Spatula  
- Clamps (e.g. medium sized bull-dog clips)

**Procedure for preparing samples for single lap shear testing:**

1. Clean the composite surfaces to be bonded as recommended by the adhesive/composite supplier (if a peel ply layer is present, remove it immediately prior to bonding).

2. Mix the adhesive as recommended by the adhesive supplier and add 1% by weight of glass ballotini (usually 0.5mm unless stated otherwise).

3. Apply the adhesive to the bond area of both composite adherends (25mm overlap length) and close the joint within the open time recommended by the adhesive supplier.

4. Ensure the composite adherends are aligned correctly (Fig.1).

5. Apply a uniform pressure to the joint area (e.g. bull-dog clips or clamp).

6. Remove excess adhesive which is ejected from the bondline with a spatula.

**Fig.1** Composite alignment

**IMPORTANT:**

A low reading **WILL** be obtained if:  
- the overlaps are greater than the stated 25mm  
- incorrect alignment of the fibres is made corresponding to the length of the joint  
- excessive amounts of ballotini are included in the adhesive mix.

**Note:** This sheet is for guidance only.  
Please also refer to adhesive manufacturer’s data and safety sheets.