

SUGGESTIONS FOR HOLE FILLING

A relatively common problem in structural fabrication is hole mislocation. This can occur because of shop error, a drawing error, or a design change after the hole or holes have already been drilled. How the hole is repaired depends on a number of factors including how the load on the structure will be applied, how important appearance is, and the proximity of other holes.

What follows are two suggested techniques for hole filling.

Fibrebolt Procedure

1. Drill the mislocated hole to the nearest tap size.
2. Tap the hole to the smallest Fibrebolt size you have on hand.
3. Apply epoxy adhesive to both the Fibrebolt threads and the hole edges.
4. Screw the Fibrebolt into the hole.
5. Cut the Fibrebolt as close to the material being penetrated as possible.
6. Grind flush.
7. Reseal area with resin after epoxy has cured.

This procedure works well when no other holes are very near the mislocated hole and the new hole location does not intersect the old hole. If another hole is very close or the right location would intersect the mislocated hole, the counterbore procedure (that follows) is suggested.

Counterbore Procedure

1. Using a flattened bit, approximately twice the diameter of the mislocated hole, counterbore halfway through the material with the centre of the counterbore being the centre of the mislocated hole.
2. Using a hole saw, cut a plug of the counterbore from an FPR plate which is half the thickness of the material being repaired. Sand the plug and epoxy it in place. Let the adhesive cure.
3. After the adhesive has cured, and again using a hole saw, cut a similar plug that is the same size as the original hole. Working from the opposite side of the material being repaired as before, epoxy this plug into place. Let it cure.
4. Sand and reseal with resin as necessary.

Neither of these repair techniques will restore original Exel Composites FRP properties.

** For more information on fabrication of fibreglass structural shapes, see Chapter 13 of the Exel Composites Design Manual. This publication is available from Exel Composites. Call +61 3 8727 9600.*

TYPICAL CONNECTIONS

