

Geometric Sphere - Nicolas Wadsworth

This design was inspired by a 20-year old kite by Nop Velthuisen.

This kite consists of 9 intersecting flat discs which together build up to a sphere. It is easier to make than it appears, so you get the credit for a complicated kite, while it is quite simple! Each disc has a fibreglass spar in a sleeve round its outer edge to hold it in shape. The quick way to make the sleeve is to cut the disc over-size and fold the edge over. This will inevitably produce some wrinkles in the sleeve which look poor in the hand—but are not visible in flight. To get a neater finish use a bias cut sleeve. Cut the disc to size and sew on a folded strip of ripstop cut At 45° to the grain.

The kite is sized for 2.5m length of fibreglass. It needs three lengths of 2.5mm diameter for the larger discs and size 1.25m long of 1.5mm diameter for the smaller discs.

Large Discs

The centre of the kite consists of three large discs, grain as shown, each with a central hole. The edge of the hole is reinforced with a narrow "warp" tape. Cut a strip of ripstop 2cm wide with the length along the grain of the fabric. Fold it in four to make a strip 5mm wide and sew this to the inner edge. (It may be easier to get the edge of the strip neatly along the edge of the hole if you sew it on before cutting the hole!). Sew a sleeve 1.25cm wide (2.5cm bias tape) round the outer edge and cut it at each end where the kite axis will be. Do not join

the discs yet.

Small Discs

The six small discs are made from 12 semi-circular discs (with no centre hole). Cut these with a seam allowance on the straight edge and make a sleeve 1cm wide on the curved edge, stopping as it reaches the seam allowance on the straight edge.

Assembly

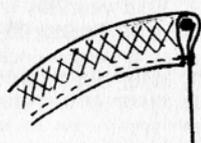
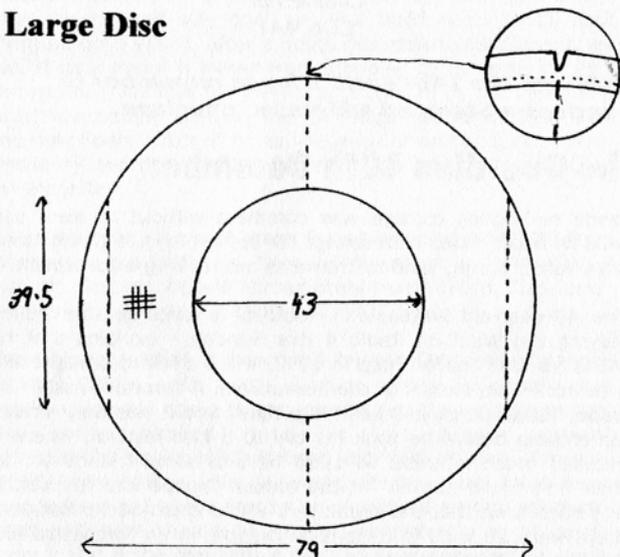
Sew a half disc either side of the large discs at the places shown. Take care not to sew the sleeves shut. Lay the large discs over each other and sew together on the centre line.

Feed 2.5mm fibreglass rods round each of the large discs, crossing each other on the centre line. (Only one continues in the same ripstop disc all the way round). Trim the rods to length and slide on ferrules. Now feed 1.5mm fibreglass round each of the small discs. Make holes in the sleeves of the large discs so this fibreglass passes just inside the 2.5mm fibreglass loop. Trim to length and slide on ferrules.

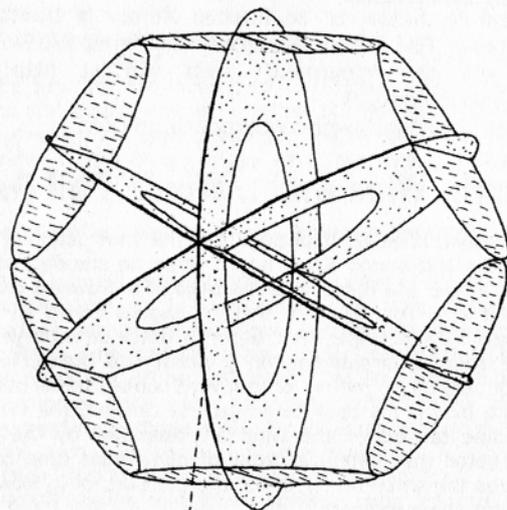
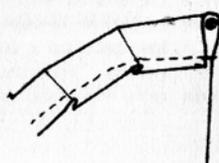
Tie each of the small discs to the adjacent ones where they meet. Fix a single line bridle round the 2.5mm rod in one of the discs 22cm from the axis.

If two opposite ties are undone, the kite folds flat for transport without removing any spars.

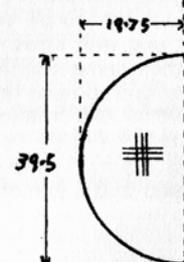
Large Disc



Sleeves



All dimensions in centimetres



Small Half Disc