

Flexible Matrix Seating

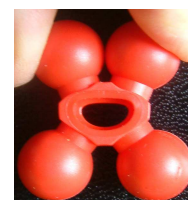


Flexibility is now 'programmable' in soft, medium and firm grades that will allow **hinging** and **recoverable structural flexing**, so shape can change due to temporary increases in load (eg. a spasm).

This is a new product with development ongoing. It can **only be used with MX2 components** (not the 1st generation matrix) because of the high quality of clamp/ball locking that is required. Flexion of the assembly needs to be in the body of the 4-ball unit so that movement in the ball and socket joint does not occur; if movement were to occur then the shape of the Matrix Shell would be lost under load, an undesirable feature clinically.

The following applications of this new technology are seen at this time to be:

- **Hinging:** Shaped thoracic pads could be hinged to the lateral side structure so as to allow de-rotation of the spine in complex spinal deformities. Retraction of the shoulders may also be possible.
- **Softening Edges:** Rows of 4-ball units could be located at the front edge of the seat (under the thighs behind the knees) with the first row using the softest (25), then the medium (60) and finally the firmest grade (120).
- **Dynamic Head Support:** Various grades of 4-ball unit could be located on the side of the head rest where extensor thrust forces could be expected allowing the head rest to move under load and return to normal shape when the spasm has passed.
- **Dynamic Seating:** Major areas of a seating and back system could be hinged to allow these segments to move under extensor thrusting patterns.
- **Other Applications:** This material is offered as a building block for other situations that could be clinically beneficial.



3D Matrix Seating (next two pages)