CASCADE MINI-RINGS® Random Packing

CASCADE MINI-RINGS® (CMR™) Random Packing was developed and introduced to the market in 1971. It became the first commercially successful high performance random packing. Since its introduction, plastic CMR random packing has been utilized in thousands of successful installations around the world in a wide variety of absorption, stripping and heat-exchange columns.

CASCADE MINI-RINGS packing achieves better capacity and efficiency than standard Pall Rings. This improvement in performance is a result of the low “aspect ratio” of 1:3 (height of the cylinder is 1/3 of the diameter).

In a bed of Pall Rings, many of the rings are oriented with nearly-horizontal cylindrical axes. These rings impede vapor flow more than their nearly vertical neighbors. However, when a bed of CMR packing is installed, the lower aspect ratio causes most of the rings to lie with their axes nearly vertical. This preferred orientation better exposes both the interior and exterior surface of the rings to the liquid and vapor flows, providing more efficient use of the packing surface. CMR packing attains greater capacity for a given size/efficiency.

The low aspect ratio of the CMR rings, along with this preferential orientation, brings about substantial improvements in process performance:

1. Lower pressure drop: Because the CMR ring’s largest opening is predominantly in the direction of the vapor flow, vapor passes easily through the column, resulting in lower pressure drop.

2. Higher capacity: The lower flow rate resistance of the lower aspect ratio rings results in a higher capacity.

3. Better fouling resistance: Any solids entering the packed bed are more easily flushed through the packing matrix by the liquid.

4. Higher mechanical strength: The preferred orientation with the cylindrical axis in the vertical position increases the mechanical strength of the packed bed.