

Segmental Surface Grinding

ISO Type 31 Segments

Vertical or horizontal spindle machines fitted with resin bonded abrasive segments are the optimum method of achieving a heavy, fast and economical way of stock removal. Segments can also be used on machine knife bevels where the material is heat sensitive. Segments are available in a variety of shapes and sizes to suit the design of the machine. The number of segments per set is dependent on the overall diameter of the segmental arrangement and capacity of the machine. Segments are fitted in the grinding head or chuck and held in place by "wedges". With high powered vertical spindle machines capable of delivering heavy grinding pressures it is critical that compliance with the safety standard as per ISO EN12413 are met.

The maximum unsupported length of segment protruding from the chuck must not be greater than 1.5 times the thickness of the segment.

To gain cost benefits the segmental grinder should be fitted with the maximum length segment the machine can accommodate without contravening the above safety standard. Grade selection is dependent on material and surface area. Softer grades are the norm in segmental grinding owing to the greater contact area of segment on the work piece. The choice of grit size to be used is dependent on the material to be ground and the finish required.

Resin bond segments reduce grinding costs by the ability of the segment to grind difficult materials or a combination of materials. Heavy stock removal without jeopardising the required surface finish. The introduction of 250hp motors with improved feed rates can deliver impressive stock removal. This is very cost effective when compared to modern planning or milling methods.



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