RADIUS MOLDINGS

Both traditional and nontraditional architectural styles often call for radius standing and running trim either in plan, elevation, or both. In situations where the size of the molding and the radius to which it is to be formed is such that a straight molding will not conform to the core, the architectural manufacturer can use several methods to fabricate radius moldings. Moldings applied to radii can be segmented, (typically only by direct specification) bent or steam bent, laminated and formed, preshaped, or machined to the radius. Manufacturers will fabricate the moldings in the longest practical lengths, with the purpose of minimizing the field joints.

- **Solid Machined** (Illustration A) woodwork typically starts with a large, often glued up piece of material, from which several nested pieces can be machined. Characteristically, this method limits the length of pieces that can be developed without a joint. It also yields a piece of material with the grain straight on the face, not following the curve. Profiles with a flat face can be machined from sheet products with an edgeband applied, yielding larger pieces with more consistent grain.

- **Core Veneered** (Illustration B) woodwork consists of core machined from lumber or panel product to which finish material is laminated as an exposed face. This technique is limited to certain profiles; however, it offers the ability to minimize glue joints and control grain directions.

- **Laminated Plies** (Illustration C) woodwork consists of thin, bendable plies of lumber in a form that will hold its shape without having to be secured to another surface. The curved piece can then be milled to the desired profile. The glue lines follow the edge grain and the curve, thus minimizing their visibility. The species of wood and the tightness of the radius determine the maximum thickness of each ply.

- **Block Laminated** (Illustration D) woodwork is made of solid machined pieces, glued up typically in a staggered fashion for width and length. When dealing with some cross sections, it can be advantageous to combine band sawing and laminating; however, it must be limited to certain profiles. It does, however, offer the ability to minimize glue joints, is used in radius jambs and often becomes the core for core veneered woodwork.

- **Kerfed** (Illustration E) woodwork consists of lumber with repeated saw cuts on the back face of the piece, perpendicular to the bend. The tightness of the radius determines the spacing and depth of the kerfs. Kerfing allows the piece to be bent to the required radius and then secured in place to hold the bend. Kerfing could result in “flats” on the face, which show in finishing. When dealing with a large radius, it is sometimes possible to stop the kerf prior to going through an exposed edge. In most cases, however, the kerf runs through, and the edge must be concealed.

**Cross Grain** in band sawn or laminated members and edges in veneer laminated members or where multiple layers are exposed by shaping may cause objectionable color variation when finished.

Unless specifically called out, the architectural manufacturer will have the option of which method to use for fabricating radius molding. Since the fabrication method determines the final appearance of the pieces, especially regarding the direction of grain and visibility of glue joints, the architect or designer may wish to specify the method. It is recommended that an architectural woodwork firm be consulted before making a selection. Mockups may be required to visualize the end product.

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Chord Segmentation is the process of cutting short lengths of straight molding and joining them around a curved substrate and is NOT permitted unless specified.

Figure: 6-007