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Tech Note
Technical Notes from the Technical Committee, NIBA – The Belting Association

#14 Establishing Centerlines and Squaring Belt Ends for Splicing

Crooked flat belt splices cause a number of operational problems that probably could be avoided if accurate centerlines or square lines had been established when the splices were made. All flat belt splicing requires careful establishment of reference or cut lines that ensure that the belt alignment will be straight through the splices. In vulcanized splices, this applies to a number of lines on both belt ends, all of which are referenced to a centerline or transverse line that is truly accurate. In mechanical fastener splices, this applies to the transverse cut line on the two ends to be joined. There are some mechanical fastener splices that are made at an angle, and these also require establishment of an accurate transverse line.

There are several methods for establishing accurate reference and cut lines in belt splices. NIBA recommends the method illustrated on the next page. This involves measuring across the belt width on both belt ends at five points spaced one to two feet apart, starting from the belt ends, and marking the center at each point. Then, a centerline is marked through the five points, using a long straightedge or a chalk line.

In most cases, the center marks will not be perfectly aligned, so the centerline mark will have to be that line that lies closest to the most center marks. Having marked the two centerlines, mark a transverse line at the desired location on each belt end by laying one leg of a carpenters square along the centerline, and a straightedge along the transverse leg of the carpenters square, and apply a mark across the belt. This will be the cut line for mechanical fastener splices, and the reference line for laying out the cut and other reference lines for vulcanized splices.

The other methods of establishing cut and reference lines are the centerline arc method, squaring off the existing belt edges method, and the triangulation method. All of these methods are either more complex than the NIBA recommended method, or they depend on straight, undamaged belt edges, a condition that probably exists in new belting, but rarely does in used belting. The NIBA method minimizes the effect of damaged or worn belt edges.