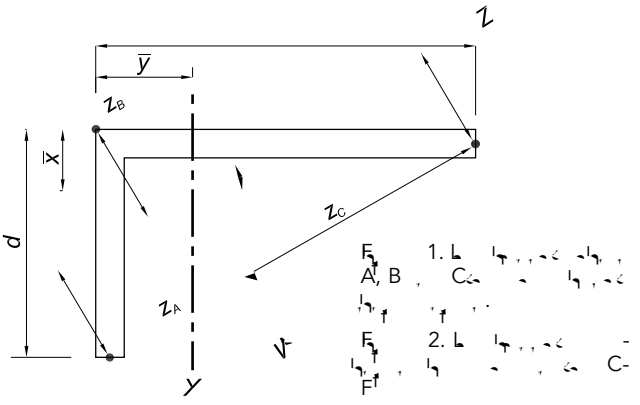
to structural steel design and construction, the most comprehensive resource is the AISC *Steel Construction Manual.* One of its most basic elements is the collection of tables that make up Part 1, which contain commonly used dimensions and properties of nearly all of the structural shapes and sizes available today. The Part 1 data include properties such as gross area, moment of inertia, and width-to-thickness ratios that are used in various design equations and formulas. These—and many more dimensions and properties beyond those provided in the tables in Part 1 of the *Manual*—also are included in electronic format in the AISC Shapes Database.

The AISC Shapes Database was first assembled by Ray Tide, P.E., in the late 1970s in conjunction with the 8th Edition *Manual*, although it was not publicly available until the mid-1980s. Today the database includes less frequently used and more shape-specific properties, such as normalized warping function, W_{no}, for wide-flange shapes and channels, and reduction factors, Q_s, for slender unstiffened compression elements. The AISC Shapes Database is essentially an expanded and more comprehensive electronic version of the tables in Part 1 of the *Manual*, and engineers who are aware of this tool can use it to quickly locate and apply the dimension or property for a specific structural shape being considered in design. It is also useful in developing design and analysis software or creating other steel-related spreadsheets. The updated AISC Shapes Database Version 14.0 was released in September 2011, just a few months after the release of the 14th Edition AISC *Steel Construction Manual.*

Version 14.0 offers a number of improvements and additions. Some additions are a result of new shapes added to the *Manual.* These added shapes include a few new C and MC sizes, a series of smaller double angle sizes (with both short legs back-to-back and long legs back-to-back configurations) and a series of larger HP sizes, up to HP18×204.



Surface area of members is included to help in evaluating how much paint or re-proo ng (or any other material applied to the surface) will be needed. The shape perimeter of wide- ange sections has been calculated for two different cases as shown in Figure 3. Case A depicts a scenario where a concrete slab rests on top of the steel section, therefore, reducing the total steel section perimeter by a ange width. Case B depicts a full section perimeter without the ange width deduction.

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