BUILDING. Poor curtain wall fit-up, partition wall problems, finished floor elevation unevenness, and door and opening installation problems can all be the end result of misunderstanding or neglect of structural steel tolerances. Engineers most often encounter steel tolerances when addressing the interface of the steel frame with another material or system. Problems in these areas are not only time-consuming and expensive to fix, but also they can taint the owner's, architect's, developer's, or general contractor's view of the project's success—even if the steel frame performs exactly as designed.

Providing adjustable details at system interfaces is the most straightforward solution to accommodate system tolerances.

Table 1. Mill Cross-Section Tolerances for W Shapes per ASTM A6-05a

Parameter		Over	Under
	bcnrf r uc`		/
	qos_pc	Üu*	.u
C	uc` mdd ac lrc	1-/4..	1-/4..
A	k_v bcnrf	Uu	.u

Additional References: R `jc /+00* *Manual* Dgespc A+3,/* AMQN qcc _jqm *Manual* R `ica /+01 rfpmsef /+07 dmp mrfcp qf

R `jc /+00* *Manual* Dgespc /+/* *Manual*

the acceptable variance for member length, straightness, camber, sweep, and cross-section properties. Cross-section properties addressed are overall depth and width, flange and web thickness, and flange out-of-alignment (see Table 1).

ASTM A6 tolerances for member camber and sweep of typical wide flange shapes are shown in Table 2. It should be noted that these tolerances are for incidental mill camber; a different set of tolerances apply for fabricator "induced" camber. Small amounts of incidental mill camber are common and don't typically cause problems in construction. However, if a piece is to be used as a column or a beam in an application that requires it to be flat, one can specify "no camber" on the order.

Fabrication and erection tolerances are specified in the 2005AISC *Code of Standard Practice* (COSP), included in Part 16 of the *Manual*. Examining the COSP and its com-

by understanding tolerances correctly and communicating expectations clearly. Working closely with the fabricator, erec-