when local yielding of the column web is an issue.

If web local yielding is the limit state being checked, the use of a doubler plate is an option. This is covered in Section J10.2 of the 2005 AISC *Specification*.

Design examples often use the transverse stiffener option because it is generally considered easier to fit and fillet weld the stiffener than a doubler plate where the weld to the fillet region becomes somewhat more tedious—and expensive. But if you are providing a doubler plate already for another reason, like web shear strength, it may not be an additional cost.

Kurt Gustafson, S.E., P.E.

Thermally Cut Holes

On one of my projects, the fabricator is asking to use thermally cut bolt holes. He is citing Section M2.5 of AISC 13th edition *Steel Construction Manual*. That section states that thermally cut holes shall be permitted with a surface roughness not exceeding 1,000 μin.

What are the advantages and disadvantages of thermally cut holes?

How does roughness of surface come into the picture for cutting the holes?

The primary advantage of thermal cutting for the making of holes is that the shaping of the plate and the burning of the holes can often be done on a single piece of equipment. This saves time in handling. Also, thermally cut holes can be cut to different diameters, if necessary, without changing bits. The advantages are primarily economic, though it also could be argued that the thermally cut holes generally will be cleaner as produced. The presence or absence of small burrs is not a significant issue, but the absence of burrs in thermally cut holes often is touted as an advantage in the literature.

Provided that the requirements for surface condition are met, there is no disadvantage to a properly made thermally cut hole. The profile of the hole is also important, and I would not allow thermal cutting of holes by hand, such as for repairs, unless approved by the EOR. Hand-guided thermal cutting usually would produce holes of questionable quality.

Larry S. Muir, P.E.

ASD Flexural Capacity in the 2005 *Specification*

When designing a channel for flexure, I am somewhat confused regarding the allowable/available moments that are published in the 13th edition *Manual*.

I came to the conclusion that all of the channels now have an allowable bending stress of $0.75F_y$ as opposed to the older $0.66F_y$. Am I correct in assuming that this is what the