The weight savings that you see with Grade 65 are typically 10% to 15% for use as columns, and go directly to the project,” said Georges Axmann, technical marketing manager for Arcelor International America. “Arcelor’s Grade 65 comes at the same price as our Grade 50.”

Arcelor supplies W-Shapes in A913 Grade 65 within the United States. Axmann says Grade 65 steel is best for use where loads are high enough to require at least 10”, 49-lb columns, such as buildings of at least four to seven stories. Grade 65 also can be used in trusses, typically in short-span or heavily loaded trusses for buildings like convention centers, or long-span trusses for structures such as stadium roofs. Grade 65’s strength also is used increasingly in seismic design. Following the 1994 Northridge earthquake, seismic design recommendations created a shift from Grade A36 to Grade 50 beams. Since then, Grade 65 has helped maintain the “strong column–weak beam” concept. Because Grade 65 steel is a single-source product in the United States, contractors are not always confident that it is priced competitively. “Arcelor keeps working hard to get the word out that they get a readily available and competitively priced building material,” Axmann said.

When to use Grade 65?

The advantages of Grade 65 steels are maximized in steel members that are not stiffness-controlled. ASTM A913 Grade 65 is especially useful in the following applications:

✔ Columns: gravity and lateral system.
✔ Trusses: long span and short-span-heavy-loaded.
✔ Seismic: “strong column–weak beam” concept.
✔ Beams: short or medium span beams, where deflection is not a concern.

Over the last decade, the use of W-shapes in steel A913 Grade 65 has increased, especially in high-rise-buildings, hospitals, convention centers and stadium roofs. Today there are more than 100 structures that have been constructed using Grade 65 steel.