

Fireproofing Structural Supports



The April 2010 Beacon discussed the use of fireproofing to protect process piping components, specifically long-bolt flangeless valves. Fireproofing is a fire-resistant insulating material that is also often applied to the surface of structural steel to delay heating of that steel from fire exposure. The primary purpose is to improve the capability of structural steel to maintain its integrity until the fire is either extinguished or other active fire-protection systems can provide adequate cooling protection. Without fireproofing, exposed structural steel, such as the pipe rack support columns in the photograph at the left above, or the support columns in the photograph on the right, can rapidly lose strength and fail, possibly within minutes. The failure of the piping and equipment supports can break pipes or cause vessels to fail, releasing more flammable material, and causing a larger fire. The photos below show some examples of damage to fireproofing on steel pipe bridge supports — the fireproofing has been removed, or has become degraded and fallen off.



What Can You Do?

- As you go about your work, look for damage to fireproofing on support columns or beams for pipe bridges, buildings, outdoor process equipment structures and other equipment supports.
- Include fireproofing checks in your routine plant safety inspections.
- Report observed damage and make sure that it is repaired.
- If you are doing any work that requires temporary removal of fireproofing on structural elements, make sure that the fireproofing is replaced when the job is finished.
- If you damage any fireproofing on structural elements in the course of other work, report the damage and make sure it is repaired.
- Be aware that damaged fireproofing can also allow the entry of water, which can further damage the fireproofing and corrode the steel under it.

Take care of fireproofed structural steel so it can take care of you!

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