CQA - FAQ

FAQ 10.004

WELDING INSPECTION OF TEMPORARY ERECTION/BRACING AIDE

Q On a school project the DSE (District Structural Engineer) issued a non-compliance report stating that we did not provide welding inspection during the welding of temporary erection/bracing aides. The temporary aides were not shown on the approved drawing. The DSE’s concern was that since we did not provide welding inspection including verifying any required preheat, the welding might have damaged the integrity of the structural members. While the DSE had a valid concern does the code require temporary welding to be inspected the same as permanent welding?

Response Submitted by Mike Clarke

A This happens quite often during the erection of a steel building and is typically guide aides for the setting and connecting of column splices between floors. It also takes place at the perimeter of the buildings at each floor level when a ring is welded to the exterior column to retain the safety cables for fall prevention. There are two things to think about here. First, I believe that the DSE’s concern wasn’t the amount of heat input but rather the fact there these areas were not properly preheated in accordance with any WPS (Welding Procedure Specification) or the AWS (American Welding Society) D1.1 at a minimum. The second item is that the D1.1 does not state that temporary welds do not require inspection. AWS D1.1 states that temporary welds are subject to the same WPS requirements as the final welds. That statement in itself requires the inspector to check that the WPS requirements are met i.e. the welder is certified, the amps, volts and other essential variables are followed including preheat. If the member was a thicker section that requires 150 or 225 degree preheat and the preheating was not performed this could cause some delayed cracking issues in the future even if the temporary welds are removed and ground flush with the base metal. Tack welds are very small and will cool almost instantly due to their small size and are very prone to cracking. One fact that I constantly need to point out to other project inspectors, special inspectors, contractors and especially welding shops is that the special inspector must be present during fabrication including the tack welding of parts. Most shops will begin fabrication and tack pieces together prior to the special inspector being present, this is not allowed, especially on a school project with DSA (Division of State Architect) oversight.

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