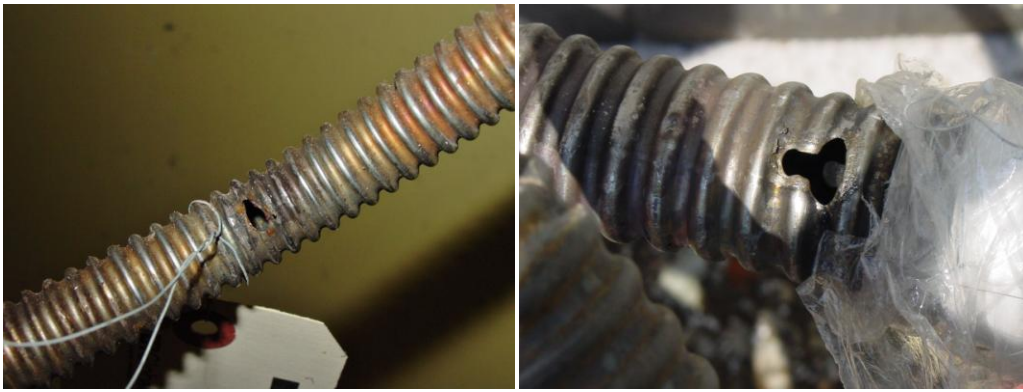


Robson Forensic

Engineers, Architects, Scientists & Fire Investigators

Fire in Upscale Home

A fire broke out in a recently constructed upscale home during a heavy thunderstorm. Robson Forensic fire investigators were retained to investigate the fire and determine the origin and cause. Our investigator concluded that the origin of the fire was under the first floor where a hole was discovered in the flexible gas tubing. He determined that the hole had been created by a lightning strike. Based on these findings, additional Robson experts were engaged to determine if the work performed by the electrical contractor during the home's construction was a cause of the hole in the gas tubing.



The gas piping system in the home was constructed utilizing Corrugated Stainless Steel Tubing (CSST). CSST is more economical to install than traditional black iron pipe, but can be more susceptible to damage from lightning events than black iron piping systems due to the thin tubing material. The heavier walls on black iron pipes provide significantly higher resistance to arcing caused by lightning than provided by CSST. For this reason, CSST manufacturers may require steps to be taken that are different than what the National Electrical Code, the National Fuel Gas Code, and the International Residential Building Codes require. Our experts in mechanical and electrical engineering discovered that the CSST manufacturer's instructions were inconsistent and some of them did not provide information on the additional steps, beyond applicable codes, that may be necessary for the safe installation of CSST.

Robson experts concluded that the gas piping system's bonding and grounding complied with all applicable building code requirements. Despite compliance with applicable codes, electrical arcing at the wall of the CSST caused ruptures in the piping at the origin of the fire. Robson experts determined that the electrical contractor's work met the applicable standard of care.