

Analyzing the deformation of copper conductor from a fire impact.

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- **Abstract:** Fire is an oxidation reaction of the three elements (fuel, oxygen, heat) that can result in loss of property, injury, even death. Electricity potential that may results on fire is the short circuit current that occurs on the equipments and electrical installation cables. The remaining wires at the first fire location are subject to fire damage and can cause electrical short circuit. The purpose of this study is to analyze the short-circuit electrical deformation of copper cable using SEM EDS and MICRO XRF instrument. Based on the study result, there is a dominant change of oxygen elements in single cable and fiber sample causing fire that is 35.96% and 21.24%, those values are higher than Oxygen on a burned short-circuited cable that is 19.54% and 12.1%. The microstructure of the cable that causes fire looks like irregular clumps whereas the burned cable looks like a clump of clumps.

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