

**Experimental Reproduction and Preventive Measures of Brittle Fracture of FRP Material
for Overhead Line Fittings**

Atsushi SUGAHARA Yoshihiro MASUDA
Mikiya ITO Masanori HANSAKA

FRPs (Fiber-Reinforced Plastics) are often applied to overhead line fittings for the purpose of insulation. Since some brittle fracture cases had occurred on epoxy GFRP applied to cyclic current prevention type pull-off arms of OCS in operation, we attempted to reproduce this brittle fracture of FRP experimentally in order to confirm the phenomenon and propose preventive measures. We conducted experiments in three environments: in air, in distilled water and in nitric acid water solution. As a result, we could reproduce brittle fracture of FRP by loading static stress continuously in distilled water and nitric acid water solution. We propose to make the part of fittings containing FRP inside watertight to prevent brittle fracture through preventing water or acid solution from permeating into the fittings.