

# **THERMAL CONDUCTIVE BEHAVIORS OF FRP COMPOSITES**



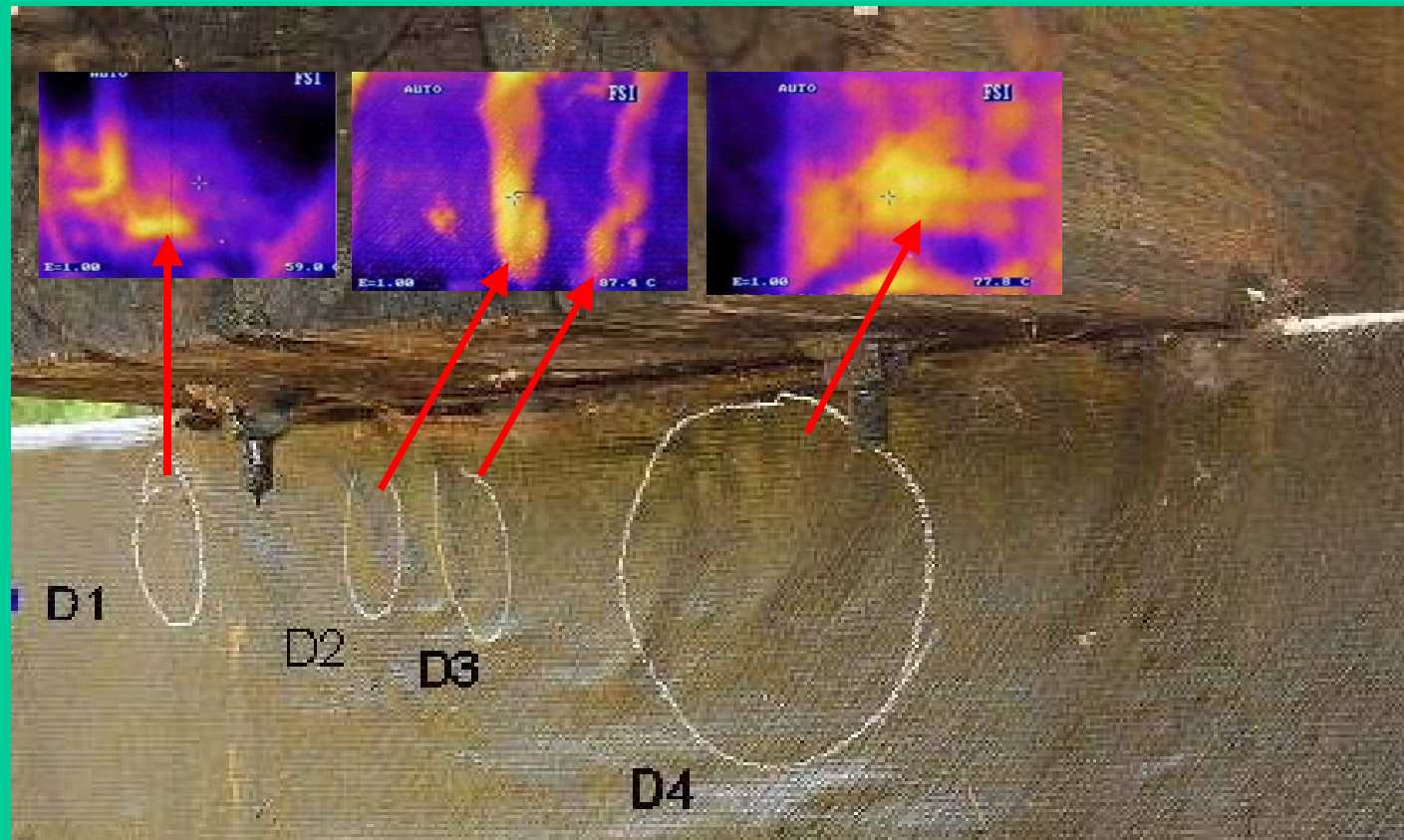
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## **Background**

**Thermal conductivity data of FRP composites are needed**

- To promote infrared thermography as a NDE tool leading to better quantitative interpretation of the results**
- To determine the thermal stresses of FRP composite structures due to high thermal gradient across the structures in the field**

# IR Thermography Testing of Wrapped Pile Cap



D1 & D4 – Detected by Tap Testing & IR Thermography

D2 & D3 – Detected by IR Thermography **Only**

## FRP Rehabilitation of Railroad Bridge 568, Moorefield, WV

(Samer Petro et al 2002)

# Thermal Behaviors of FRP Composites

## Objectives

- To establish a thermal conductivity database of FRP composites in longitudinal, transverse, and thickness directions as functions of material and process parameters
- To develop analytical models to predict thermal conductivity of FRP composites
- To develop FRP composite decks or polymer concrete wearing surfaces with self-deicing capability through innovative material design