



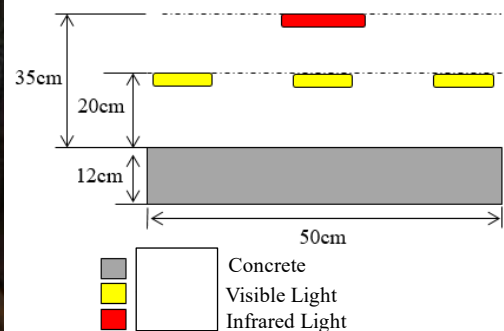
- **Education: PhD, AMES, U.C. San Diego, USA**
- **Expertise: Structural Inspection, Assessment, and Retrofitting, Large Deformation Plasticity, Solid Mechanics, Composite Materials, Inorganic Thermal Insulation Coatings**
- **RCEC Principal Research: Inorganic Thermal Insulation Coatings, Asphalt Concrete, and Thermal Performance Study of Concrete Structures**
- **RCEC Research Goals:**
 - (1) Comfortable Residential Environment
 - (2) Mitigation of Urban Heat Island Effect
 - (3) Reduction of Carbon Emissions
 - (4) Waste Recycling and Utilization

Office: Room 408

Civil Engineering

Phone: +886-2-2771-2171 ext. 2648

E-mail: yfli@mail.ntut.edu.tw

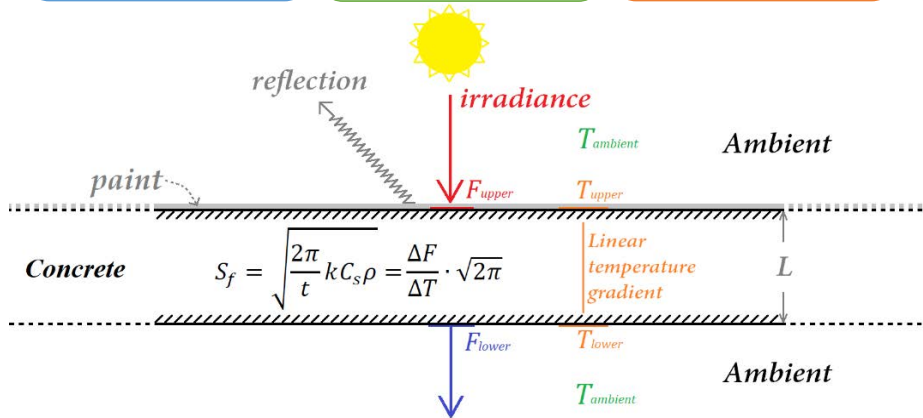
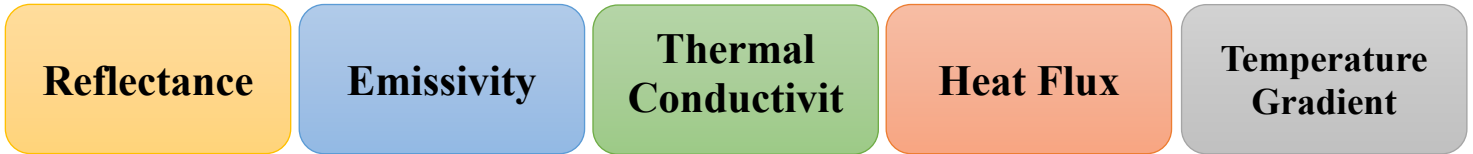


Irradiation test

Research Method and Application

The fundamental characteristics and key properties of thermal performance analysis of materials

The thermal behavior response of concrete panels to solar



The heat flux, transfer, and storage behavior of concrete panel

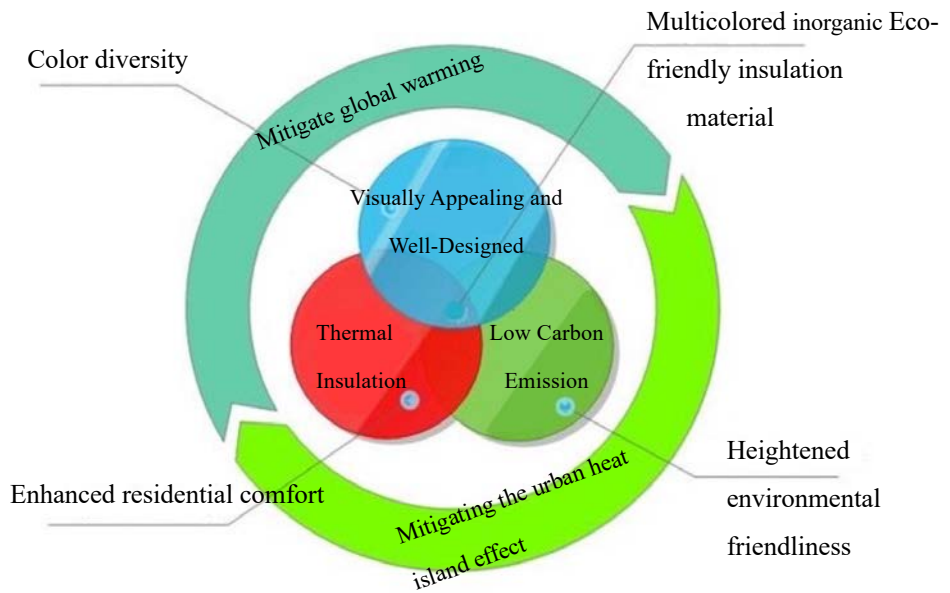
Application Case



Inorganic thermal insulation mineral powder coating for shipping container

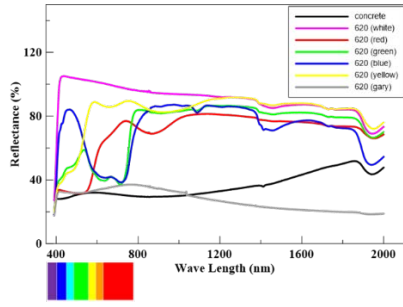


On-site heat flux and surface temperature testing

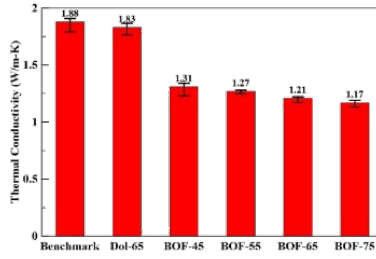


Inorganic mineral powder coating material multifaceted relationship diagram

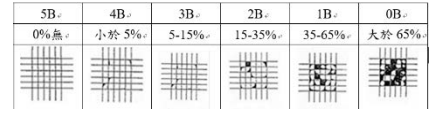
Related Research Highlights



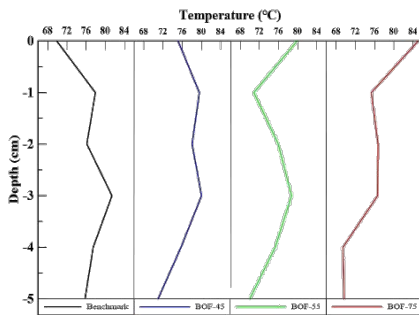
Material reflectance analysis



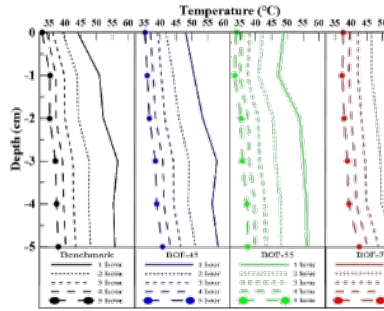
Material thermal conductivity coefficient analysis



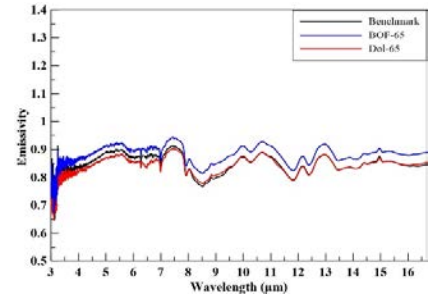
Coating adhesion test



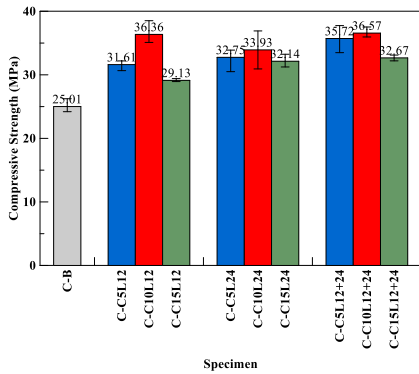
Heating temperature profile diagram of concrete panels



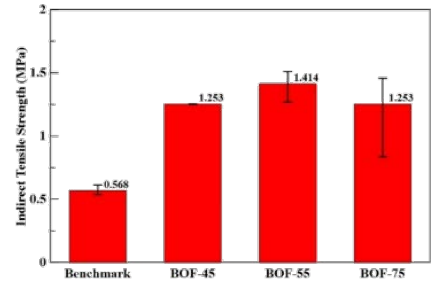
Cooling temperature profile diagram of concrete panels



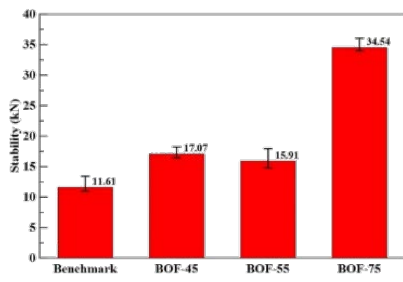
Material emissivity analysis



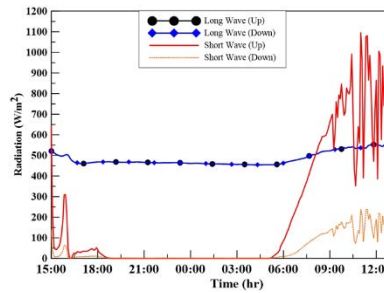
Compressive strength test



Indirect tensile strength test



Marshall test



Environmental radiation analysis

| 試體 | 混凝土版厚4cm | | 混凝土版厚5cm | | 混凝土版厚6cm | | 混凝土版厚7cm | |
|-------|----------|-------|----------|-------|----------|-------|----------|-------|
| | 上部熱通量 | 下部熱通量 | 上部熱通量 | 下部熱通量 | 上部熱通量 | 下部熱通量 | 上部熱通量 | 下部熱通量 |
| B | -546.5 | 116.8 | -556.2 | 104.8 | -551.8 | 83.5 | -555.1 | 66.7 |
| G1-C1 | -384.3 | 132.5 | -381.7 | 113.8 | -385.1 | 100.8 | -383.2 | 81.4 |
| G3-C1 | -388.6 | 127.4 | -386.5 | 107.4 | -393.9 | 92.1 | -389.1 | 75.9 |
| G5-C1 | -408.3 | 121.7 | -404.2 | 100.6 | -398.1 | 84.4 | -399.8 | 71.5 |
| G7-C1 | -414.8 | 115.5 | -408.5 | 96.3 | -402.2 | 77.3 | -409.7 | 65.9 |
| G1-C3 | -1242 | 110.6 | -1228 | 102.3 | -1219 | 95.7 | -1203 | 79.1 |
| G3-C3 | -1282 | 108.4 | -1267 | 100.8 | -1253 | 87.3 | -1233 | 71.4 |
| G5-C3 | -1272 | 104.4 | -1264 | 98.3 | -1259 | 79.4 | -1251 | 67.8 |
| G7-C3 | -1264 | 97.4 | -1276 | 91.2 | -1289 | 72.3 | -1290 | 61.2 |
| G1-O8 | -558.9 | 70.1 | -553.1 | 63.6 | -547.7 | 57.3 | -544.3 | 51.3 |
| G3-O8 | -561.5 | 67.6 | -554.3 | 57.4 | -556.1 | 51.8 | -549.3 | 47.9 |
| G5-O8 | -563.1 | 64 | -558.7 | 56.7 | -551.4 | 48.9 | -543.6 | 45.8 |
| G7-O8 | -554.4 | 59.6 | -545.7 | 53.9 | -539.6 | 47.8 | -531.1 | 43.0 |

Heat flux test