

## 1.9 Thermography of Electrical Installations

1	<b>Duration</b>	5 days (35 hours)
2	<b>Aim</b>	The aim of the course is to provide the necessary knowledge for perform thermography correctly and efficiently on electrical equip-ment, the aim being to prevent fires occurring.
3	<b>Target Public</b>	Thermographers who work on electrical installations to pinpoint possible defects, including fire risks.
4	<b>Prerequisites</b>	<ul style="list-style-type: none"> <li>• Technical qualification which is at least equivalent to that of a trained electrician and</li> <li>• Training and education required under national legislation to be able to work on electrical installations and</li> <li>• Practical experience in thermography of electrical installations.</li> </ul> The participants have to bring their own thermographic equipment.
5	<b>Objectives</b>	At the end of the course the student has the knowledge to use non-contact temperature measurements of electrical equipment and connections in all levels of voltage detect and evaluate thermic abnormalities. This knowledge is required by CFPA-E-guideline No. 3:2003 / F as one of the prerequisites for certification of thermographers.
6	<b>Programme</b>	<ul style="list-style-type: none"> <li>• Thermodynamics and radiation</li> <li>• Infrared measurement techniques</li> <li>• General operation of equipment used for thermography</li> <li>• Overview of application of thermography</li> <li>• Structures of energy distribution systems</li> <li>• Ageing of electrical contacts and connections</li> <li>• Heating by electrical current</li> <li>• Electrical equipment for high-, medium- and low-voltage</li> <li>• Typical limit temperature of electrical equipment</li> <li>• National standards and legislation</li> <li>• Practical exercises</li> <li>• Evaluation of temperatures</li> <li>• Documentation of measurements and evaluation</li> <li>• Examination</li> </ul> See also CFPA-Guidelines No. 3:2003/F para 5.1
7	<b>Related CFPA-E Guidelines</b>	CFPA-Guidelines No. 3:2003 / F
8	<b>Examination</b>	Written examination and a case study presented in writing or orally.
9	<b>Certificate - Diploma - Attest</b>	Diploma
10	<b>Countries Running the Course</b>	<ul style="list-style-type: none"> <li>• France (formation@cnpf.com, www.cnpf.com)</li> <li>• Germany (ischlosser@vds.de, www.vds.de)</li> <li>• Spain (mrodriguez@cepreven.com, www.cepreven.com)</li> </ul>