The thermal inertia of a material can be obtained by multiplying the thermal conductivity (cal./cm./sec./degrees C.) by the density (gm./cm.3) by the specific heat (cal./gm./degrees C.).

§ 1505.8 Maximum acceptable material temperatures.

The maximum acceptable material temperatures for electrically operated toys shall be as follows (Classes 105, 130, A, and B are from "Motors and Generators," Standard MG–1–19671 published by the National Electrical Manufacturers Association):

<table>
<thead>
<tr>
<th>Material and Method</th>
<th>Degrees C.</th>
<th>Degrees F.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacitors</td>
<td>(1)</td>
<td>(1)</td>
</tr>
<tr>
<td>Class 105 insulation on windings or relays, solenoids, etc.:</td>
<td>90</td>
<td>194</td>
</tr>
<tr>
<td>Resistance method</td>
<td>110</td>
<td>230</td>
</tr>
<tr>
<td>Class 130 insulation system</td>
<td>110</td>
<td>230</td>
</tr>
<tr>
<td>Insulation:</td>
<td>85</td>
<td>185</td>
</tr>
<tr>
<td>Varnished-cloth insulation</td>
<td>90</td>
<td>194</td>
</tr>
<tr>
<td>Fiber used as electrical insulation</td>
<td>90</td>
<td>194</td>
</tr>
<tr>
<td>Insulation on coil windings of a.c. motors (not including universal motors) and on vibrator coils:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In open motors and on vibrator coils—thermocouple or resistance method:</td>
<td>100</td>
<td>212</td>
</tr>
<tr>
<td>Thermocouple method</td>
<td>105</td>
<td>221</td>
</tr>
<tr>
<td>In totally enclosed motors—thermocouple or resistance method:</td>
<td>90</td>
<td>110</td>
</tr>
<tr>
<td>Resistance method</td>
<td>100</td>
<td>212</td>
</tr>
<tr>
<td>Insulation on coil windings of d.c. motors and of universal motors:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In open motors:</td>
<td>95</td>
<td>115</td>
</tr>
<tr>
<td>Thermocouple method</td>
<td>105</td>
<td>125</td>
</tr>
<tr>
<td>In totally enclosed motors:</td>
<td>90</td>
<td>110</td>
</tr>
<tr>
<td>Thermocouple method</td>
<td>100</td>
<td>120</td>
</tr>
<tr>
<td>Resistance method</td>
<td>95</td>
<td>115</td>
</tr>
<tr>
<td>Phenolic composition</td>
<td>105</td>
<td>125</td>
</tr>
<tr>
<td>Rubber- or thermoplastic-insulated wires and cords:</td>
<td>60</td>
<td>140</td>
</tr>
<tr>
<td>Sealing compound</td>
<td>(1)</td>
<td>(1)</td>
</tr>
<tr>
<td>Supporting surface while the toy is operating normally</td>
<td>90</td>
<td>194</td>
</tr>
<tr>
<td>Wood and other similar combustible material</td>
<td>90</td>
<td>194</td>
</tr>
</tbody>
</table>

Subpart B—Policies and Interpretations

§ 1505.50 Stalled motor testing.

(a) §1505.6(e)(4)(ii) requires that a motor-operated toy be tested with the motor stalled if the construction of the toy is such that any person can touch moving parts associated with the motor from outside the toy. The performance of the toy shall be considered unacceptable if, during the test, temperatures higher than those specified in §1505.8 are attained or if temperatures higher than those specified for Type C surfaces in §1505.7 are attained on any accessible surface of the motor.

(b) To determine if a moving part associated with the motor can be touched from outside the toy, the Commission staff will use a ¼-inch diameter rod, as referenced in §1505.4(h)(1). If the rod, when inserted into openings in the toy, can touch any moving part associated with the motor, the toy will be tested with the motor stalled.

1Copies may be obtained from: National Electrical Manufacturers Association, 155 East 44th Street, New York, NY 10017.