VDE Product Certification for the Domestic Appliance Standard IEC/EN 60335-1
IEC/EN 60335-1

Plastic component in domestic electrical appliance

Insulation material (excluding manual appliances)

Plastic component in manual appliances or plastic components that are not insulating materials.

Supervised appliance

Non-supervised appliance

GWT at 550 °C

Material HB40 or FH3

Current ≤ 0.5 A

GWT at 650 °C

Current > 0.5 A

GWT at 750 °C

Current ≤ 0.2 A

GWIT min. 675 °C

No Listing

Current > 0.2 A

GWT at 650 °C*

GWFI min. 850 °C

GWIT min. 775 °C

No Listing

GWT at 750 °C*

*If no GWT: needle flame test on the surrounding parts, or surrounding parts at least V-1
For carriers of current-carrying parts in unsupervised appliances with current densities above 0.2A, Domestic Appliance Standard IEC/EN 60335-1 stipulates:

- a GWFI test at 850 °C

and

- a GWIT test at 775 °C.

If materials are used that do not have a GWIT of 775 °C, a test may be performed on the finished part (GWT) at 750 °C. Constructional/design options can still be used to comply with the standard.

If the material passes the GWFI and GWIT tests in the preferred thicknesses 0.75 (± 0.1) mm, 1.5 (± 0.1) mm and 3.0 (± 0.2) mm, all wall thicknesses are allowed in the finished part.
Recent amendment:

In conjunction with the VDE, a way has been found of complying with the domestic appliance standard through the use of certified plastics.

Conditions for the plastics supplier:

1. Certification of the production facility by the VDE
2. Certification of the relevant plastics by the VDE
3. Annual monitoring by the VDE

The up-to-date certificates you will find at
Menu: Certificates/VDE Certificates
## Ways of complying with IEC/EN 60335

<table>
<thead>
<tr>
<th>Use of certified materials</th>
<th>Design/Constructional solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>– Yellow Card for “UL countries”</td>
<td>– Use of non-certified materials possible (with respect to GWIT), but the component must conform to special fire and design specifications.</td>
</tr>
<tr>
<td>– NEW: VDE certification for Europe, ...</td>
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<tr>
<td></td>
<td>– High planning reliability because the materials are selected at an early stage.</td>
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<tr>
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<td>– Cost reduction because all geometries are directly covered by the use of suitable materials and do not have to be tested individually.</td>
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<td></td>
<td>– Time saving, because the testing of the finished appliance is reduced.</td>
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<tr>
<td>Testing of the finished part</td>
<td></td>
</tr>
<tr>
<td></td>
<td>– Use of non-certified materials possible (with respect to GWIT), but they must pass the finished part test.</td>
</tr>
<tr>
<td>Design/Constructional solutions</td>
<td></td>
</tr>
</tbody>
</table>
VDE certificate

Certified company

Product groups PA 6 and PA66

VDE registration number

Certified property
### VDE certificate

<table>
<thead>
<tr>
<th>Certified grades</th>
<th>GWFI value with preferred thicknesses</th>
<th>Colors</th>
<th>GWIT value with preferred thicknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Durethan DP 1622/30</strong></td>
<td>350/10.75, 850/1.5, 850/3.0</td>
<td><strong>Durethan DP A305</strong></td>
<td>850/6.8, 850/4.8</td>
</tr>
<tr>
<td><strong>Durethan DP A305 PE/30</strong></td>
<td>850/6.8, 850/4.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Permitted regrind content** (max. 25 %)

**Recommended processing conditions**
Advantages of the certificate

– Planning reliability

Through the use of certified plastics, conformity with the standard with respect to the glow wire test can be ensured and the relevant VDE stamp obtained at an early stage of planning.

This planning reliability saves the processor from carrying out any post-finishing work or subsequently having to change his choice of materials.
Advantages of the certificate

– Reduced testing

Through the use of certified plastics, different model series manufactured from the same material do not have to be tested individually. The testing work shifts from the plastics processor to the plastics supplier.

The processor saves testing costs and gains testing capacities for other tests.
Advantages of the certificate

– Shorter time-to-market

Using certified plastics replaces the need to test the finished article. This eliminates the testing that can otherwise only be carried in the final development stage.

Elimination of the need to test the final article means that the processor can bring his product to market more quickly.
Advantages of the certificate

– Global products

In addition to the Yellow Card from UL, the Lanxess products are also listed with the VDE. This means that the world’s two most important organizations confirm compliance with the specifications governing the choice of materials.

Processors can sell their products anywhere in the world.
Planning reliability reduces subsequent costs

Time-to-market reduces development time

Fewer tests reduce costs

Global products reduce logistics

Safety through the use of certified materials
Thank you for your attention