INTERNATIONAL ELECTROTECHNICAL COMMISSION
STANDARD 60335-2-40
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Scope is to prepare safety requirements for electrical appliances primarily for household purposes, but also for other equipment and appliances in similar fields where there is no IEC Technical Committee in existence.
To prepare international safety standards dealing with electrical equipment used in residential, commercial or light industrial applications primarily for the purpose of conditioning air and which contain a refrigeration or heating cycle using a motor compressor or based on the absorption principle.
Part 2-40: Particular requirements for electrical heat pumps, air-conditioners and dehumidifiers
This standard deals with the safety of electric heat pumps, including sanitary hot water heat pumps, air-conditioners, and dehumidifiers incorporating motor-compressors and hydronic fan coils.
Examples of products covered

- Portables
- Ducted units
- Chillers
- Multisplit systems
- Split systems
Examples of refrigerants included

<table>
<thead>
<tr>
<th>Refrigerant class</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>R410A, R744…</td>
</tr>
<tr>
<td>A2L</td>
<td>R1234yf, R32…</td>
</tr>
<tr>
<td>A2</td>
<td>R152a</td>
</tr>
<tr>
<td>A3</td>
<td>R600, R290</td>
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</tbody>
</table>
Freedom from unacceptable risk of physical injury or of damage to the health of people, either directly, or indirectly as a result of damage to property or to the environment
The standard deals with the common hazards presented by appliances that are encountered by all persons in and around the home.
General Safety requirements

- Electric current and electric voltage
- Resistance to heat and fire
- Maximum temperatures
Specific considerations for flammable refrigerants

- Charge limits
- Ignition sources
Examples of safety systems

- Active systems (functional safety)
- Passive systems (not functional safety)
Current updates

- **WG09**: additional requirements for 2L refrigerants
- **WG16**: review of requirements for 2 & 3 refrigerants
Membership in IEC61D

21 P-members = Participating Member
- Australia
- Austria
- Belgium
- China
- Denmark
- Egypt
- France
- Germany
- India
- Iraq
- Italy
- Japan
- Korea
- Philippines
- Serbia
- South Africa
- Spain
- Sweden
- Turkey
- United Kingdom
- United States

27 O-members = Observer Member
- Belarus
- Brazil
- Bulgaria
- Canada
- Czech Republic
- Finland
- Greece
- Hungary
- Indonesia
- Iran
- Ireland
- Israel
- Malaysia
- Mexico
- Netherlands
- New Zealand
- Norway
- Poland
- Portugal
- Romania
- Russia
- Singapore
- Slovakia
- Slovenia
- Switzerland
- Thailand
- Ukraine

Countries not listed are not a member of 61D
The producer or importer is liable.
The International Electrotechnical Commission develop standards for the safety of electrical equipment.

Safety standards deal with refrigerants classified as A1, A2L, A2 or A3 under ISO 817.
New technologies will be accepted by the population at large only if their application does not pose a danger.

Source: The Board of Management of TÜV SÜD AG, April 2016
THANK YOU