Technical Information Security Technology

Locking Cylinders

Basis of testing and certification:
VdS-Guidelines for Physical Security Devices
Locking Cylinder with Individual Locking Function
Requirements and Test Methods, VdS 2156 (07)

Classifications

<table>
<thead>
<tr>
<th>Class</th>
<th>A, AZ</th>
<th>B, BZ</th>
<th>B+, BZ+</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Basic burglary protection</td>
<td>Medium burglary protection</td>
<td>Medium burglary protection, suitable to use in ACE of IAS 1)</td>
</tr>
</tbody>
</table>

General requirements

For VdS-approved locking cylinders a mounting instruction is made available, which contains a sufficient description of mounting and conditions of use.

Keys

<table>
<thead>
<tr>
<th>Class</th>
<th>AZ</th>
<th>BZ</th>
<th>B+, BZ+</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Basic requirements</td>
<td>Protected profile</td>
<td>Protected profile</td>
</tr>
<tr>
<td>AZ:</td>
<td>- AZ: Locking cylinder with integrated pulling protection</td>
<td>- Ordering copy of the keys with security card by the key dealer</td>
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</tr>
</tbody>
</table>

Marking

- VdS-company’s logo
- Type description
- VdS-class

Dimensions

The dimensions of VdS-approved locking cylinders meet the requirements of DIN 18 252. Alternative designs are permitted.

Effective varieties 2)

≥ 30,000
≥ 100,000
≥ 100,000

Test requirements

<table>
<thead>
<tr>
<th>Picking security</th>
<th>Thermal resistance</th>
<th>Security against corrosion</th>
<th>Durability 4)</th>
<th>Stability of keys</th>
<th>Stability against drilling</th>
<th>Stability against pulling 5)</th>
<th>Opening by force (with the next closest key)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic security</td>
<td>- 20 °C to + 80 °C</td>
<td>- according to EN 1670 (class 3)</td>
<td>25,000 to 100,000 cycles</td>
<td>≥ 2.5 Nm</td>
<td>≥ 3 min</td>
<td>≥ 15 kN / ≥ 3 min</td>
<td>≥ 1.5 Nm</td>
</tr>
<tr>
<td>Medium security</td>
<td>- 20 °C to + 80 °C</td>
<td>- according to EN 1670 (class 3)</td>
<td>25,000 to 100,000 cycles</td>
<td>≥ 2.5 Nm</td>
<td>≥ 6 min</td>
<td>≥ 15 kN / ≥ 6 min</td>
<td>≥ 1.5 Nm</td>
</tr>
<tr>
<td>High security</td>
<td>- 20 °C to + 80 °C</td>
<td>- according to EN 1670 (class 3)</td>
<td>25,000 to 100,000 cycles</td>
<td>≥ 2.5 Nm</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Stability against pulling 5)

≥ 15 kN / ≥ 3 min
≥ 15 kN / ≥ 6 min
≥ 15 kN / ≥ 6 min

≥ 1.5 Nm
≥ 1.5 Nm
≥ 1.5 Nm

The complete guidelines may be ordered by mail at verlag@vds.de.

Remark: Indications on times for manual attacks are to be understood as so-called laboratory times – real attack times are (due to less experience and/or tool equipment of burglar) in multiple longer. The forces during the tests are raised by machines.

1) Ancilliary controll equipment (ACE) of intruder alarm systems (IAS)
2) Only the effective varieties are mentioned here. These are those of the technical possible codes which are not likely to get overcome with simple tools (e.g. no key cuts with same depths or evenly raising depths).
3) VdS guidelines, protection against environmental influences
4) The durability requirements are tested and approved in three levels of 25,000 (minimal requirements), 50,000 or 100,000 locking cycles according to the manufacturers request.
5) Option for cylinders with integrated pulling protection.