

Technical Information Security Technology



Locks for Bicycles and Motorcycles

Basis of testing and certification:

VdS-Guidelines for Physical Security Devices
Locks for Bicycles and Motorcycles

Requirements and Test Methods, VdS 2597 : 2007-10

Classifications		
Class	A Basic security – recommended for the securing of bicycles and small motorcycles (capacity less than 50 cm ³)	B Increased security – recommended for the securing of motorcycles
Class	A+ Suitable for the connection of the bike to a fixed object	B+ Suitable for the connection of the motorcycle to a fixed object
General requirements		
For VdS-approved locks for bicycles and motorcycles a mounting instruction is made available, which contains a sufficient description of mounting and conditions of use.		
<i>Number of keys</i>	At least 2 keys are to be delivered with each lock	
<i>Marking</i>	<ul style="list-style-type: none"> - VdS-company's logo - Type description - Approval number - VdS-class 	
<i>Closing</i>	A forcible closing shall be realised, i.e. before removing the key the bolt element is to be activated; locking or unlocking shall not be possible after removal of the key.	
<i>Effective varieties¹⁾</i>		
Mechanical locks	≥ 5,000	≥ 30,000
Electronic locks	≥ 100,000	≥ 1,000,000
Test requirements		
<i>Resistance against opening attempts</i>	Basic security	Increased security
<i>Tension, in opening direction</i>	≥ 25 kN	≥ 35 kN
<i>Tension, perpendicular to opening direction</i>	≥ 12 kN	≥ 15 kN
<i>Torsion, shackle</i>	≥ 250 Nm	≥ 500 Nm
<i>Torsion, steering column locks</i>	≥ 250 Nm	≥ 500 Nm
<i>Cutting strain</i>	≥ 30 kN	≥ 40 kN
<i>Impact on lock corpus</i>	5 impacts à 30 J (test temperature = -20 °C)	5 impacts à 60 J (test temperature = -20 °C)
<i>Impact on shackle</i>	5 impacts à 30 J (test temperature = -20 °C)	5 impacts à 60 J (test temperature = -20 °C)
<i>Drilling</i>	≥ 2 min	≥ 5 min
<i>Attacks, hand tools</i>	≥ 5 min	
<i>Sawing</i>	≥ 3 min	
<i>Pulling resistance, cylinder</i>	≥ 7 kN	
<i>Security against opening with the next closest key</i>	≥ 1.5 Nm	
<i>Torsion, cylinder</i>	≥ 15 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⁾ 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).