

## Guidelines: Things to know about retrofitting bicycles with e-drives

Bicycles are designed and tested for being propelled by pure muscle power. (DIN EN ISO 4210 Part 1 to 9)

These bicycles retrofitted with an e-drive (max. 250 Watt/max. 25 kmh (15.5 mph)) become pedelecs/e-bikes that are subject to the Machinery and EMC Directive and have to be tested in accordance with the DIN EN 15194-2017 standard (for all products put on the market from May 2019 on).


The consequences are as follows:

- > Risk analysis necessary
- > Parts list and notes on disposal
- > Proof of fatigue strength for all safety-relevant components must be submitted
- > Proof of EMC necessary for fully-assembled vehicle
- > Proof of functional and electrical safety
- > Original operating instructions in native language in printed form
- > Assessment of conformity
- > Declaration of conformity
- > CE-compliant type plate

Possible legal consequences if retrofitting is performed by the retailer:

- > Commission of an administrative offence or consequences under criminal law
- > Retailer liable for personal and material damage
- > Loss of business liability insurance cover
- > Sales ban by market surveillance authority
- > Consequences regarding right to compete

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 This is the translation of the original guidelines issued by ZIV, VSF and BIV (German umbrella organisation for the German cycle industry guilds) in cooperation with Zedler-Institut, updated in 2018. In the event of any misunderstandings, the original German version (Leitfaden: Wissenswertes über das Nachrüsten von Fahrrädern mit E-Antrieben) shall be applicable.

Experts of the following associations / companies were involved in drawing up the present guidelines (in alphabetical order):



velotech.de  
tests • consulting • certificates



zedler-Institut  
Technology and Passion for Bicycles

