Notes on assembling screw connectors using an impact wrench

Since the 2000s, impact wrenches have been used in distribution networks to assemble screw connectors for low and medium-voltage cables with conductors in accordance with EN 60228. Well-known manufacturers of impact wrenches are continuously updating these tools so that new models are available at relatively short intervals. This is why general criteria are formulated to allow users to select suitable impact wrenches themselves. These criteria apply to conductor cross-sections in accordance with EN 60228 up to 630 mm² and a maximum screw torque of 65 Nm.

Tool specifications:

- The nominal torque of the device is to be in a range between 150 Nm and max. 260 Nm at impact frequencies of 2000 rpm to 3500 rpm.
- The tool holder should be a G12.5 ½" external square drive with a secure locking function.

Rechargeable battery performance data:

- The capacity of the rechargeable battery (preferably lithium-ion technology) is to be at least 3.0 Ah with a battery voltage of at least 14.4 V to ensure sufficient operating time.
- The battery is to be used and replaced in accordance with the relevant instructions for use.

Tool insert:

- The tool insert for transferring force to the screw must be suitable for use with impact screwdriving tools.
    - Single-piece design (made from one piece)
    - G12.5 ½" square drive according to DIN 3121 – ISO 1174
    - Safety mount with a hole and ball catch groove or safety ring

Additional notes on using impact wrenches:

- The impact wrench used must not be defective and must be used correctly.
- The screwing process must be carried out perpendicular to the screw. The screw must not be subjected to any leverage.
- We recommend tightening each screw when starting assembly at the lowest possible speed or impact frequency and only then at full power.
- No adapters or extensions may be used when installing impact wrenches.
- We recommend having at least one additional charged battery ready for assembly.
- The connecting element must be approved for the respective area of application. The assembly must be carried out in accordance with the corresponding installation instructions.

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