



PART 2

EN 1621-2 - MOTORCYCLISTS' PROTECTIVE CLOTHING AGAINST MECHANICAL IMPACT - MOTORCYCLISTS' BACK PROTECTORS - REQUIREMENTS AND TEST METHODS

EN 1621-2 covers back protectors. The impact energy is the same as for limb protectors, at 50 Joules, but the transmitted force is lower than for limb protectors at 18 kN for “Level 1” products and 9 kN for the higher performance “Level 2” products. Back protectors are conditioned in the same way as limb joint impact protectors, at ambient temperatures and after hydrolytic ageing, with optional testing after “hot” and “cold” conditioning.

There was originally criticism of the standard from medical experts who consider the transmitted force levels too severe; citing decades of automotive research which indicates 4 kN is the maximum force the brittle bones which form the human ribcage can withstand before they fracture. Four kiloNewtons is the requirement adopted in standards covering, for example, horse riders' body protectors and martial arts equipment.

Attempts to reduce the transmitted force requirement to 4 kN and to correspondingly reduce the 50 Joule impact energy requirement were strongly resisted by industry, who claimed consumers would be “confused” by different impact energy requirements between EN 1621-1 and EN 1621-2.

In truth, it was in industry's commercial interests to test both types of protector at 50J, since they could then extol the efficacy of back protectors which, when struck with the same impact energy as limb protectors, transmitted only 9 or 18 kN compared to 35 kN. The consumer would be unaware that subtle differences in the impactor and anvil were responsible, still less aware that 9 kN was still more than double the safe limit supported by medical experts. Furthermore, during the late 1990s, some companies had used the wholly inappropriate EN 1621-1 to CE mark their back protectors. Commercial objectives were given priority over consumer safety.

Despite these concerns, the original version of EN 1621-2 represented a starting point from which wholly unsafe products should be rendered obsolete and unsaleable. The situation has further improved with the additional conditioning requirements and options in the latest revision to the standard.

Finally, there are a small number of back protectors on the market which have been dual-tested against the requirements of EN 1621-2 and also against a 4 kN transmitted force requirement. Reading the manufacturer's technical information will disclose which are the superior products.