VISCOTEC
protecting your body

CE-Standard EN 1621-1
Standard for joint protectors in motorcyclists´clothing

Technical Information

The term "protector" pertaining to motorcyclists' clothing has enjoyed special protection within the EC since 1997. To enable a differentiation to be made between effective and ineffective protectors and those that offer too little padding, minimum requirements have been set out in a European standard, which must be fulfilled by a protector.

European standard (EN) 1621-1 determines the minimum protector size for the areas, that is, the joints to be protected, and sets out the shock absorption requirements the protector must meet in order to protect the wearer from injury.
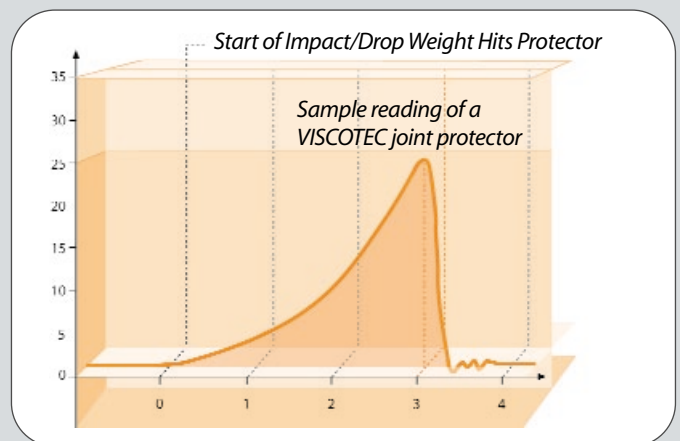

Flat rectangular striker with hemispherical anvil

The ability of the protector to absorb mechanical energy is determined by means of an impact test. A flat rectangular striker (40 x 80 mm) weighing 5 kg is dropped on the protector from a height of 1m. The protector is positioned on a hemispherical anvil, equipped with a device for measuring the force. The device measures how much force is still present underneath the protector. This is the force that would impact on the body of the wearer and which ultimately causes injuries. The lower the value, the more effective is the protector.

After several impacts, the residual force value must not be greater than 50 kN and the average of all impacts must be below 35 kN. These impacts (steel drop weight on steel anvil, that is, no protector and no delay time) generate a peak force of approx.150 - 180 kN.

Start of Impact/Drop Weight Hits Protector

Sample reading of a VISCOTEC joint protector

Force-Time Diagram

According to the EN standard, each protector must be supplied with instructions on its prescribed use, positioning, cleaning and care, as well as basic technical data. These instructions must also indicate what the wearer must do with the protector after a crash or fall.

Each protector has to carry markings, indicating the protection area for which it is designed and certified.

Protector for	Marking
Shoulder	S
Elbow	E
Hip	H
Knee	K

Size	Marking
Small/can be used as alternative	Type A (= small area)
Standard	Type B (= large area)