

Understanding Multi-Impact Helmet Standards

AS/NZS 1801 Hard hats are intended to reduce the forces of impact from a blow to the top of the head. EN 12492 Helmets are designed to reduce the forces from lateral impact coming from an off-centre, side or top of the head strike. For work at height, it is essential that in the event of an uncontrolled fall the helmet is retained on the head. Select a helmet with the impact and penetration testing standards most appropriate to your work activities.

	Crown impact test	Multi side impact & UV tests	Standards description
EN 12492	<p>5kg 2m 100 JOULES</p> <p>3kg 3kg 1m 1m 100 JOULES</p> <p>F > 500N</p>	<p>400 hours exposure UV</p> <p>5kg 5kg 0.5m 0.5m 25 JOULES 25 JOULES</p> <p>5kg 5kg 0.5m 0.5m 25 JOULES 25 JOULES</p>	<h3>The standard for mountaineers</h3> <p>Impact tested with two 5kg strikers: a hemispherical striker is dropped from 2m onto the crown of the helmet and a flat striker from 500mm on to the front, rear & sides by tilting the headform to 30°. In all cases, the transmitted force through the neck of the headform does not exceed 10kN. Two penetration tests with a 3kg pointed striker are also performed within any point around the shell of the helmet without making contact with the headform. Exceeds the shock absorption and impact tests of AS/NZS 1801 & EN397. Non-releasing chinstrap F > 500N. the helmet is tested after artificial ageing including 400 hours of intense UV exposure. Mountaineering standard helmets require the approval of the manufacturer if intended for industrial use.</p>
AS/NZS 1801 / EN 397	<p>5kg 1m 49 JOULES</p> <p>3kg 1m 100 JOULES</p> <p>150N < F < 250</p>	<p>NO TEST</p>	<h3>The standard industrial safety helmet standards</h3> <p>Impact testing is only carried out to the helmet crown. A 49J impact to the crown of the helmet measures shock absorption, and a penetration test with a 3kg striker from 1m. There is no side impact tests, only a lateral rigidity test which is a slow progressive force loading- not an impact test.</p> <p>EN397 requires a chinstrap which is designed to release under load with a force of 150N < F < 250N. For AS/NZS1801:1997 helmets there is no reference to UV exposure before testing is performed; also it is optional to make attachment of a releasing type chinstrap only.</p>
EN 14052	<p>1kg 1kg 2.5m 2.5m 25 JOULES 25 JOULES</p> <p>5kg 2m 100 JOULES</p>	<p>400 hours exposure UV</p> <p>5kg 5kg 1m 1m 50 JOULES 50 JOULES</p> <p>5kg 5kg 1m 1m 50 JOULES 50 JOULES</p>	<h3>The standard for high performance industrial safety helmets</h3> <p>Extreme rated helmet standard, the specification includes the requirement for side impact protection. Tests require that the shell is subjected to a total of 150J of impact energy, 100J to the top of the helmet and 50J to the side (up to 60° from the crown) of the helmet. Penetration testing is also required with a "blade" striker being dropped from 2.5m to give an impact energy of 25J on to the top of the helmet and an impact energy of 20J from 2m on the side of the helmet. Exceeds the shock absorption and impact tests of AS/NZS 1801, EN397 and EN12492. Non releasing chinstrap F > 500N. Helmet is tested after artificial ageing including 400 hours of intense UV exposure.</p>