

EN Standards

HEAD PROTECTION:

EN 397: Specifies the physical and performance requirements of industrial safety helmets. Certain tests are mandatory – shock absorption, resistance to penetration, flame resistance and chin strap anchorage.

EN 812: Specification for industrial bump caps which are intended to provide protection against bumps caused by walking into hazardous projections.

EYE PROTECTION:

EN 166: Specification for personal eye protection.

1 = Optical Class

3 = Liquid/ Chemical Splash

4 = Large Dust Particles

5 = Gas & Fine Dust Particles

9 = Molten Metals & Hot Surfaces

B = Medium Energy Impact

F = Low Energy Impact

EN 169: Specification or filters used in eye protection for welding, etc (braze-welding, arc gouging and plasma jet cutting).

EN 170: Specification for ultra violet filters.

EN 171: Specification for infrared filters.

EN 172: Specification for sun-glare filters.

HEARING PROTECTION:

EN 352-1: Specification for earmuffs.

EN 352-2: Specification for ear plugs.

EN 352-3: Specification for helmet mounted earmuffs.

EN 352-4: Specification for level dependant earmuffs.

EN 352-5: Specification for active noise reduction earmuffs.

EN 352-6: Specification for earmuffs with electrical audio input.

EN 352-7: Specification for level dependent earplugs.

SNR (Standard Noise Reduction) is a general means of comparing several earmuffs. Generally the higher the SNR rating the better the performance of the earmuff across the range of noise frequencies. The figures associated with H, M and L indicate the level of protection within the range of High, Medium and Low frequency noise.

RESPIRATORY PROTECTION:

EN 136: Full face masks

EN 137: Self-contained open circuit-compressed air.

EN 138: Fresh air hose & mask/mouthpiece.

EN 139: Compressed air line & mask/mouthpiece.

EN 140: Half masks and quarter masks.

EN 141: Gas/vapour filters & combined filters.

EN 143: Particle filters

EN 145: Self-contained circuit breathing.

EN 146: Power particle filtering devices (including hoods or helmets).

EN 147: Powered particle filtering device (including masks).

EN 149: Filtering half-masks against particles

EN 270: Compressed air line & hood.

EN 271: Compressed air line or powered air hose & hood (abrasive blasting).

EN 371: AX gas filters (against low boiling organic compounds).

EN 372: SX gas and combined filters (against specific compounds).

EN 402: Escape apparatus, SCBA with full mask or mouthpiece assembly.

EN 405: Valved filtering half mask respirators for gases and/or particles.

FILTER CLASSIFICATION:

FFP1 = Disposable particulate respirators are approved for use against solid and liquid aerosols according to EN 149:2001. They are suitable for protection from nontoxic harmful materials in concentrations up to 4 x OEL or 4 x APF.

FFP2 = Disposable particulate respirators are approved for use against solid and liquid aerosols according to EN 149:2001. They are suitable for protection from low to average toxicity harmful materials in concentrations up to 12 x OEL or 10 x APF.

FFP3 = Disposable particulate respirators are approved for use against solid and liquid aerosols according to EN 149:2001. They are suitable for protection from high toxicity harmful materials in concentrations up to 50 x OEL or 20 x APF.

FLAME RETARDANT WORKWEAR:

EN 469: Protection for fire fighters.

EN 470-1: Protection clothing for use in welding, grinding and cutting

EN 531: Protection clothing for industrial workers exposed to heat (including molten metal splash in foundries- levels D (Alum) & E (Iron)).

EN 533: Protection against limited flame -spread limited materials.

EN ISO 11611:2007: Protective clothing for use in welding and allied processes.

EN ISO 11612:2008: Protective clothing to protect against heat and flame.

EN ISO 14116:2008: Protection against heat and flame – Limited flame spread materials, materials assemblies and clothing.

EN 1486: Fire-fighting specialised clothing.

EN 50354: Electrical arc test methods for material and garments, for use by workers at risk from exposure to an electrical arc.

EXPOSURE TYPES:

A = Limited flame spread

B = Protection against conductive heat

C = Protection against radiant heat

D = Protection against molten aluminium splash

E = Protection against molten iron splash

Under D and E there are also design requirements including specifications for pockets and closures.

GENERAL PROTECTION:

EN 340: This European standard specifies general performance requirements for ergonomics, innocuousness, size designation, ageing, compatibility and marking of protective clothing and the information is to be supplied by the manufacturer.

EN 342: Protection against cold (more than - 5C).

EN 343: Protection against foul weather.

EN 1149 -1: Protection against electrostatic discharge to avoid incendiary.

CHEMICAL PROTECTION:

EN 465: Liquid chemicals (spray tight). Type 4 equipment.

EN 466: Liquid chemicals (liquid tight). Type 3 equipment.

EN 467: Liquid chemicals (partial body e.g. Apron sleeves and hoods).

HIGH VISIBILITY:

EN 471: Protection against low visibility hazards. Grouped into three classifications according to the conspicuity provided, with the classes dictating the minimum quantities of background and retro reflective materials to be used.

not be less than 50 mm wide. Minimum background material 0.14m². Minimum retro reflective material 0.10m².

Class 2 = Intermediate level of protection. Bands of retro reflective material shall not be less than 50mm wide. Minimum background material 0.50m². Minimum retro reflective material 0.13m²

Class 3 = Highest level of protection. Bands of retro reflective material shall not be less than 50mm wide. Minimum background material .80m². Minimum retro reflective material 0.20m². Horizontal reflective bands can now have an incline of +/-20°.

HAND PROTECTION:

Category 1 = Simple design - For areas of minimal risk.

Category 2 = Intermediate design - For areas of specific risk.

Category 3 = Complex design - For areas of applications that can seriously harm the wearer's health

EN 374: Protective gloves against chemicals/ micro organisms.

EN 388: Protective gloves against mechanical (abrasions, cutting, puncture and tearing. This also covers the risk of electrostatic discharge.

PERFORMANCE RATINGS

(a) Abrasion resistance 0-4

(b) Blade cut resistance 0-5

(c) Tear resistance 0-4

(d) Puncture resistance 0-4

EN 407: Protective gloves against thermal risks (heat and/ or fire).

PERFORMANCE RATINGS

(a) Burning behaviour 0-4

(b) Contact heat 0 -4

(c) Convective heat 0 -4

(d) Radiant heat 0-4

(e) Small splashes of molten metal 0-4

(f) Large splashes of molten metal 0-4

EN 420: General requirements for gloves.

EN 421: Protective gloves against ionising radiation/radioactive contamination.

EN 511: Protective gloves against convective and contact cold.

PERFORMANCE RATINGS

(a) Convective cold 0-4

(b) Contact cold 0-4

(c) Water repellancy 0-1

FOOTWEAR:

EN 344-1: Requirements and test methods for safety footwear.

EN 344-2: Additional requirements for protection against water, cut resistance and metatarsal protection.

EN 345: Requirements and test methods for protective safety footwear, where footwear made to the standard requires a safety toecap providing 200 joules protection. In addition it has passed a compression test; the upper is of a certain thickness and quality. The sole is tested for heat resistance, abrasion, oils, chemicals and shock absorption.

CATEGORIES:

SB = Minimum requirements (standard basic), Class 1 or 2

S1 = SB + Closed heel + antistatic + shock absorbent heel, Class 1

S2 = S1 + Water repellent upper, Class1

S3 = S2 + Protective midsole, Class 1

S4 = S2 Where footwear is made with rubber/PVC/ PU, Class 2

S5 = S3 Where footwear is made with rubber/PVC/PU, Class 2.

Class 1 = Leather Upper

Class 2 = Rubber/PVC/PU Upper

P = Protective Midsole

A = Antistatic

E = Shock Absorbent Heel

WRU = Water Repellent Upper

HRO = Heat Resistant Sole

CI = Cold Insulation

HI = Heat Insulation

EN 346-1: Additional requirements for protection against impact at 100J.

EN 346-2: Additional requirements for protection against water, cut resistance and metatarsal protection.

EN 347-2: Additional requirements for protection against water.

EN 381: Protection against hand-held chain saws.

FALL ARREST:

EN 354: Lanyards

EN 355: Shock Absorbers

EN 358: Impact

EN 360: Retractable type fall arrest

EN 361: Full body harness

EN 362: Connectors

EN 363: Fall protection methods

EN 364: Test methods.

EN 365: Requirements to labelling and user instructions.