



DIRECTIVE 89/686/EEC



EU REGULATION 2016/425

MODEL EXERGY GREEN O2

Occupational trainer, sportive style. Padded collar and tongue, upper in textile material, toe cap reinforcement in cowhide and antistatic nitrile rubber sole filled with expanded polyurethane.

Design A compliant with EN ISO 20347:2012. Cemented manufacturing system by attaching the sole to the upper using conventional gluing.

PPE Category II (Regulation EU 2016/425)



SIZES AVAILABLE

35 – 50 EU

DESIGNATION CODE.

O2+CI+HRO+SRC (EN ISO 20347:2012) DIRECTIVE 89/686/EEC. EU REGULATION 2016/425.

REQUIREMENTS SATISFIED.

Ergonomics and adjustment to the user's shape. Anti-static footwear. Energy absorption in the heel. Oil resistant. Slip resistance. Resistance to water absorption and penetration. Cold insulation. Resistance to hot contact. Resistance to non-extreme environmental factors under expected conditions of use.

The materials from which it is made are safe and do not affect the safety or health of the user. They pose no risks or discomfort under expected conditions of use.

The materials from which it is made and the parts of the footwear that are or may come in contact with the user wearing it have no rough surfaces, sharp edges, points or protrusions that may cause injury or excessive irritation. These materials or their breakdown products do not affect the safety or health of users.

The adjustment system cannot be accidentally loosened under expected conditions of use; the footwear is tightened and loosened by means of laces, no tools are necessary.

The design makes it easy for the user to put on, and takes into account environmental factors and the actions and postures involved; the fit is adapted to the user's shape, including a variety of manufacturing sizes.

The footwear is designed to let the foot breathe naturally and to absorb perspiration. The liners are designed to absorb sweat and perspiration.

The model meets specific requirements to offer adequate protection against expected hazards and to resist environmental factors under expected conditions of use.

The date of manufacture is stamped on the footwear (sole); the batch number for tracing purposes is marked on the label on the upper and the label on the packaging box (pair).

DESCRIPTION OF COMPONENTS.

Main fabric; high tenacity anti-allergic outer mesh. It offers great resistance to abrasion, absorption and drying of perspiration. Lightweight, waterproof and breathable material.

Tear strength: ≥ 60 N.

Tensile strength: ≥ 20 N/mm²

Water vapour permeability: ≥ 0.8 mg/cm²h.

Water absorption: $\leq 20\%$ after 60 min.

Penetration: ≤ 0.2 gr en 60 min.

Abrasion resistance > 2500 cycles

Abrasion resistance > 50.000 dry cycles and 30.000 humid cycles

Heel and toe cap; cowhide leather with a thickness of 2.0 - 2.2 mm

Tear strength: ≥ 200 N.

Tensile strength: ≥ 20 N/mm²

Water vapour permeability: ≥ 0.8 mg/cm²h.

Cr VI content: ≤ 3 ppm.

pH: ≥ 3.2

Water absorption: $\leq 20\%$ after 60 min.

Penetration: > 240 min.

Abrasion resistance > 2500 cycles

Lining: Vamp and Heel: made from anti-allergic polyamide material, highly resistant to abrasion, absorption and drying of perspiration.

Tear strength: > 18 N.

Abrasion resistance: > 51,200 dry cycles and 25,600 wet cycles.

Water vapour permeability: > 2 mg/cm²h

Collar padded with interior foam. Resin-impregnated, non-stitch fabric counter.

Anti-bacterial insole designed entirely by our Biomechanics Laboratory, with an ergonomic design based on the distribution of sole pressures, arch support, retrocapital support and confinement of the soft tissues of the heel, providing comfort and rest and inhibiting moisture inside the footwear. Antibacterial, antistatic and breathable treatment.

Midsole made of antistatic, foamed, low-density polyurethane that provides great cushioning. Provides thermal insulation.

Antistatic, nitrile rubber outsole with non-slip design and anti-tip pads (anti-torsion system). The design of the sole has wide contact surface, brake area cleats and evacuation channels. It provides thermal insulation.

Tear strength: > 8 N/mm.

Abrasion resistance: <150 mm³

Oil resistance: < 12%.

Energy absorption in the heel: > 20 J.

Fastening system using laces.

PROTECTS AGAINST.

Falling objects or crushing of front part of the foot: NO.

Falls and impacts to heel of the foot: YES.

Falls due to slips: YES.

Slipping on wet or oily surfaces: YES.

Walking on pointed or sharp objects: NO. (Only models with P or O3 marking).

Effects and falls of objects on metatarsus: NO.

Injuries to toes or deformation of feet: YES.

Muscle fatigue caused by walking or standing: YES.

Work that causes vibrations: YES.

Impacts in ankle area: NO. (Does not meet requirements for AN).

Possible ankle sprains: YES.

Penetration by external materials: NO. (Only models with anti-penetration insole).

Build-up of electrostatic charges caused by movement or leakage from low-voltage machinery: YES.

Electrically insulated footwear: NO.

Electrically conducting footwear: NO.

Molten metal: NO.

Possible burns and flames: NO. (Does not meet the requirements of EN 15090).

Heat through contact with hot surfaces: YES.

Very extreme heat conditions with high need for transpiration: NO.

Exposure to cold (-10°C): YES. Exposure to cold (-30°C): NO.

Protection against dust or dirt: YES.

Protection against aggressive liquids: NO.

Water penetration through vamp due to sporadic or permanent exposure to moisture: NO.

Protection against radiation: NO.

Protection against biological agents/bacteria: NO.

APPLICATIONS.

Industry and maintenance. Indoor and outdoor work. Warehouses. Transport. Cleaning

CONTENT OF DANGEROUS SUBSTANCES THAT MAY AFFECT THE FOOTWEAR AND COMPONENTS.

SUBSTANCE	CONTENT	LEGAL REFERENCE
Acrylamide	<1000 mg/kg	REACH REGULATION EU 366/2011
Alkylphenol and ethoxylates	<1000 mg/kg	REACH REGULATION EC 552/2009
Arsenic (compounds)	prohibited; not detectable	RD 106/1985 Decree 2484/1967
Biocides	prohibited; not detectable	Regulation EU 528/2012
Cadmium and its compounds	<100 mg/kg (polymers and costume jewellery) <1000 mg/kg (painted items)	Regulation EU 835/2012 REACH Regulation EU 494/2011
Chloroalkanes, C10-C13	<10,000 mg/kg	Regulation EU 519/2012 REACH
Chromium VI	<3 mg/kg	EN ISO 20344-7 REACH DIRECTIVE 1989/686/EEC
Dimethyl fumarate	prohibited <0.1 mg/kg	REACH Regulation EU 412/2012
Whale oil	prohibited; not detectable	Regulation EC 338/1997
Formaldehyde	<100 mg/kg	Specific regulations by country
Phthalates	<1000 MG/KG	REACH Regulation EC 552/2009
Fluorinated gases	prohibited; not detectable	Regulation EC 842/2006
Hexachloroethane	prohibited; not detectable	REACH Regulation EC 552/2009
Mercury (compounds)	prohibited; not detectable	REACH Regulation EC 552/2009
Nickel and its compounds	Released from article <0.5 µg/cm ² /week	REACH Regulation EC 552/2009
Organostannic compounds	<1000 mg/kg	REACH Regulation EU 276/2010
Pentachlorophenol (PCF) and Tetrachlorophenol (TCF)	<5 mg/kg	Country-specific regulations
Lead (compounds)	prohibited; <500 mg/kg	REACH Regulation EU 836/2012
Flame retardant	prohibited; <100 mg/kg	REACH Regulation EU 757/2010
Perfluorooctane sulfonates (PFOA, PFOs)	prohibited; <10 mg/kg or 0.1% by weight	Regulation EU 757/2010
Dispersion dyes	<5 mg/kg	German regulation
Azo dyes	<30 mg/kg list of 22 amines <0.1% weight for blue dye	REACH Regulation EC 552/2009
Trichlorobenzene	<1000 mg/kg	REACH Regulation EC 552/2009
Polycyclic Aromatic Hydrocarbons (PAHs)	1 mg/kg plastic and rubber articles in contact with human skin.	REACH Regulation EU 1272/2013

Manufactured by CALZADOS ROBUSTA, S.L.
Ctra. Préjano, 72 - 26580 Arnedo (La Rioja) Spain
www.robusta.es

Thank you for choosing our footwear.

USE AND MAINTENANCE. (REGULATION EU 2016/425)

The useful life of safety footwear is directly related to the conditions of use and quality of maintenance. Therefore, the user must check regularly on its state to ensure its effectiveness. The manufacturer recommends changing socks daily, leaving shoes to air out whenever possible, preferably using two pairs of shoes to alternate, especially in cases of important perspiration, not reuse the shoes of another person, regularly clean the upper and sole, drying shoes out whenever they get wet and taking care not to expose the footwear to temperatures exceeding 50°C. Store the pair in a dry and airy place, preferably in its cardboard box. Discarding the shoes is recommended when accentuated wear of the relief of the sole is observed.

This PPE is made of quality materials which properties make it very resistant to the passage of time, if properly maintained. It is recommended to transport this PPE in a bag or individual box. This PPE had been designed in accordance with Directive 89/686/EEC. And REGULATION EU 2016/425. Results achieved in the technical tests fully satisfy the exigencies of the Normative EN 344-7; EN ISO 20344-7 and are guaranteed by the appropriate certificate issued by INESCOP (0160) or CIMAC (465).

ANTISTATIC AND CONDUCTIVE FOOTWEAR.

Antistatic footwear and boots have to be used where it is required to reduce the accumulation of electrostatic charges in order to avoid the risks of ignition due to sparks of different substances and their vapors, as well as the risk associated with the incomplete removal of the electric charges in certain machines.

Experience has shown that the discharge path through a product under normal conditions requires an impedance of less than 1.000MΩ during the service life of the product in order to fulfil the antistatic requirements.

A value of 100MΩ is considered to be the minimum impedance of a new product in order to ensure reliable protection against electric shock hazard or against ignition if a malfunction occurs in an electrical equipment carrying voltage until 250V.

However, under certain conditions the user should be aware that the protection offered by the shoes could be ineffective and that other means should be used to protect the user at all times. During the use, should not be introduced any element of insulation between the inner-footbed and the user's foot. If an intermediate sole is placed between the sole of the foot and the sole of the shoe, the electrical properties of footwear + intermediate insole must be checked.

Polyurethane is a chemical compound composed of two materials, polyol and isocyanate, these two products deteriorate due to the emigration of the material that joins them. PU soles may begin to deteriorate two or three years after their manufacturing date.

EUROPEAN LEGISLATION.

EN ISO 20344:2011. Aggregate the requirements and test methods for safety shoes, labor protection and professional use. It is the basic rule. Derive from it:

EN ISO 20345:2011. Aggregate the specifications for safety footwear for professional use, which must resist an impact of an energy equivalent of 200 Joules and a compression of 15 kN.

EN ISO 20346:2011. Aggregate the specifications for protective footwear for professional use which must resist an impact of an energy of 100 Joules and a compression of 10 kN.

EN ISO 20347:2012. Aggregate the specifications for the professional use footwear.

TYPES OF PROTECTION.

P: Puncture resistance up to 1,100 N.

WRU: Resistant to water penetration and absorption of the upper. (EN ISO 20344; 0.2 g-30%).

C: Footwear providing resistance to electricity under 100MΩ.

HI: Footwear providing thermal insulation against heat.(EN ISO 20344; 22°C/30 min).

E: Energy Absorption in the heel area. (EN ISO 20344; 20 J).

CI: Footwear providing insulation against cold. (EN ISO 20344; 10°C/30 min).

A: Shoes that dissipate electrostatic charges. Resistance between 0.1MΩ and 1000 MΩ.

SB: Safety footwear for professional use with toe-cap that resist impacts until 200 Joules and compression up to 15 KN. The sole is resistant to hydrocarbons.

$$S1 = SB + A + E \quad ; \quad S2 = S1 + WRU \quad ; \quad S3 = S2 + P$$

SRA: Slip resistance on ceramic tile floor with detergent.

SRB: Slip resistance on steel floor with glycerin.

SRC: Slip resistance on ceramic tile floor with detergent and steel floor with glycerin.

“La resistencia a la perforación de este calzado se ha medido en laboratorio con un clavo truncado de 4,5 mm de diámetro, ejerciendo una fuerza de 1100 N. Si se dan fuerzas mayores o clavos de menor diámetro aumentará el riesgo de que se produzca perforación. En tales circunstancias, deberían contemplarse medidas preventivas alternativas.

Actualmente se encuentran disponibles dos tipos genéricos de plantas resistentes a la perforación para calzado de protección: las plantas metálicas y las plantas no metálicas. Ambos tipos cumplen los requisitos de resistencia a la perforación establecidos por la norma marcada en el calzado, pero cada uno de ellos tiene ventajas o desventajas adicionales, entre las que se encuentran las siguientes:

Plantas metálicas: les afecta menos la forma del objeto afilado (es decir, el diámetro, la geometría, cómo de afilado sea el objeto), pero debido a las limitaciones del proceso de fabricación de calzado, no cubre toda la superficie inferior del zapato.

Plantas no metálicas: pueden ser más ligeras, más flexibles y ofrecer una mayor superficie de cobertura con respecto a las plantas metálicas, pero su resistencia a la perforación puede variar, dependiendo más de la forma del objeto afilado (es decir, el diámetro, la geometría, cómo de afilado sea el objeto).

Para más información sobre el tipo de planta resistente a la perforación que incorpora su calzado, contacte con el fabricante o proveedor que se indica en estas instrucciones”.

“The penetration resistance of this footwear has been measured in the laboratory using a truncated nail of diameter 4,5 mm and a force of 1100 N. Higher forces or nails of smaller diameter will increase the risk of penetration occurring. In such circumstances alternative preventative measures should be considered.

Two generic types of penetration resistant insert are currently available in PPE footwear. These are metal types and those from non-metal materials. Both types meet the minimum requirements for penetration resistance of the standard marked on this footwear but each has different additional advantages or disadvantages including the following:

Metal: *Is less affected by the shape of the sharp object / hazard (the diameter, geometry, sharpness) but due to shoemaking limitations does not cover the entire lower area of the shoe.*

Non-metal – *May be lighter, more flexible and provide greater coverage area when compared with metal but the penetration resistance may vary more depending on the shape of the sharp object / hazard (the diameter, geometry, sharpness).*

For more information about the type of penetration resistant insert provided in your footwear please contact the manufacturer or supplier detailed on these instructions”.

Factor de riesgo del entorno de trabajo	PROTECCION DEL CALZADO	LIMITES DE PROTECCION EN ISO 20345	LIMITES PROTECCION EN ISO 20347
Riesgos mecánicos: -Caída de objetos -compresión	-Tope -Protección del metatarso -Protección del tobillo	Resistencia impacto 200 J Resistencia compresión 15 KN 100 J ≤ 10Kn valor medio y ≤15kn valor máximo	NO PROTEGE 100 J ≤ 10Kn valor medio y ≤15kn valor máximo
Objetos punzantes	-Resistencia perforación	1.100 N clavo de 4.5 mm	1.100 N clavo de 4.5 mm
Corte -objetos punzantes -sierra cadena	-Resistencia al corte -Resistencia corte sierra cadena	Índice: ≥2.5 En función categoría y velocidad en m/s	Índice: ≥2.5 En función categoría y velocidad en m/s
Vibración o choque (periodo largo andando y de pie)	Absorción de energía	20 J	20 J
Resbalamiento/deslizamiento	Resistencia al deslizamiento: Acero Baldosa	Tacón: 0.13; Plano 0.18 Tacón: 0.28; Plano 0.32	Tacón: 0.13; Plano 0.18 Tacón: 0.28; Plano 0.32
Riesgos eléctricos: -Trabajo eléctrico -Choque eléctrico	-Aislamiento eléctrico	Norma EN 50321	Norma EN 50321
-Electricidad inducida (manejo combustible, sustancias inflamables)	Calzado antiestático	0.1-1000 MΩ en seco y húmedo	0.1-1000 MΩ en seco y húmedo
Manipulación de explosivos	Calzado conductor	<0.1 MΩ en seco y húmedo	<0.1 MΩ en seco y húmedo
Calor: -Ambiente -Superficie caliente	Aislamiento al calor Resistencia al calor por contacto	HI: 22°C en 30 min HRO: 300°C en 1 min.	HI: 22° C en 30 min HRO: 300°C en 1 min.
-Llama	-Resistencia a la llama -Aislamiento frente al calor -Resistencia al calor por contacto -Resistencia al calor radiante	Tras 10 s de exposición la llama se apaga/extingue a los 2 s (EN ISO 15090) HI: 22° C en 30 min HRO: 300°C en 1 min HI3: Aumento térmico < 42 ° C en 10 min (EN ISO 15090)	Tras 10 s de exposición, la llama se apaga/extingue a los 2 s (EN ISO 15090) HI: 22°C en 30 min HRO: 300°C en 1 min. HI3: Aumento térmico < 42°C en 10 min (EN ISO 15090)
Frío: -Ambiente -Superficie fría	Aislamiento al frío Aislamiento del piso	CI: 10°C en 30 min.	CI: 10°C en 30 min.
Humedad o condiciones húmedas -Gotas -Salpicaduras	Penetración/absorción de agua Resistencia agua calzado completo	0.2 g/30% ≤ 3 cm2	0.2 g/30% ≤ 3 cm2
Aceite/hidrocarburos	Resistencia hidrocarburos	Aumento volumen ≤12 %	Aumento volumen ≤12 %

MANUFACTURER'S GUIDANCE AND INSTRUCTIONS. EU REGULATION 2016/425.

(USE AND MAINTENANCE (RD 1407 / 1992; 159 / 1995. Directive 89/686/ECC).

Manufacturer: CALZADOS ROBUSTA, S.L.
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USE AND MAINTENANCE. (REGULATION EU 2016/425)

The useful life of safety footwear is directly related to the conditions of use and quality of maintenance. Therefore, the user must check regularly on its state to ensure its effectiveness. If any damage is observed during its use, it will be repaired or reformed if possible, otherwise it will be discarded.

The manufacturer recommends:

- Changing socks daily.
- Leaving shoes to air out whenever possible, preferably using two pairs of shoes to alternate, especially in cases of important perspiration.
- Not reusing the shoes of another person.
- Regularly cleaning the upper and sole.
- Drying shoes out whenever they get wet and taking care not to expose the footwear to temperatures exceeding 50°C.
- Storing the pair in a dry and airy place.
- Transporting it preferably in its cardboard box.
- Discarding the shoes is recommended when accentuated wear of the relief of the sole is observed.

ANTISTATIC AND CONDUCTIVE FOOTWEAR.

Antistatic footwear and boots have to be used where it is required to reduce the accumulation of electrostatic charges in order to avoid the risks of ignition due to sparks of different substances and their vapors, as well as the risk associated with the incomplete removal of the electric charges in certain machines.

Experience has shown that the discharge path through a product under normal conditions requires an impedance of less than 1.000MΩ during the service life of the product in order to fulfil the antistatic requirements.

A value of 100MΩ is considered to be the minimum impedance of a new product in order to ensure reliable protection against electric shock hazard or against ignition if a malfunction occurs in an electrical equipment carrying voltage until 250V.

However, under certain conditions the user should be aware that the protection offered by the shoes could be ineffective and that other means should be used to protect the user at all times. During the use, should not be introduced any element of insulation between the inner-footbed and the user's foot. If an intermediate sole is placed between the sole of the foot and the sole of the shoe, the electrical properties of footwear + intermediate insole must be checked.

EXPIRATION AND GUARANTEE

Polyurethane is a chemical composition of two materials, polyol and isocyanate. These two products over the time are decomposed by the migration of the material that joins them. After three years from its manufacturing, it is possible that a deterioration of the soles of P.U. starts.

The applicable warranty for storage expiration is for PU / PU soles is 3 years, depending on storage conditions (humidity, heat, lack of light).

The applicable warranty for storage expiration for the soles of POLYURETHANE and RUBBER NITRILE is 7 years, depending on the storage conditions (humidity, heat, lack of light).

The upper materials (leathers, linings, textiles, safety elements, etc.): DO NOT EXPIRE

The durability depends on the level of use, but in any case, its use should not exceed 2 or 3 years for bi-density polyurethane soles (UNE-CEN ISO / TR 18690: 2006).

The guarantee applicable to footwear is 1 year against any manufacturing faulty and in normal use with the proper maintenance of the user.

The manufacturing date of the footwear (sole injection or manufacturing of the same) corresponds to that indicated on the watch located in the shank of the sole (in the center the year and around it the 12 months, marked with an arrow).

The manufacturing date of the upper is shown on the label sewn on the tongue (Year and Week).

The traceability of the batch is indicated by the manufacturing date (upper and sole) and the production order indicated on the label placed on the primary packaging.

This PPE is composed of materials with qualities that make it more resistant to ageing if it is properly preserved.

It is recommended to transport the PPE inside a bag or an individual box.

This PPE has been designed according to Directive 89/686 / ECC and its subsequent update in the Regulation 2016/425 EU.

The performances achieved in the technical tests are fully satisfactory based on the standards EN ISO 20344 and EN ISO 20345. These performances are guaranteed by the corresponding certificate issued by notified bodies, at European level according to ISO 17025.

PROTECTION LEVEL

P: Puncture resistance up to 1,100 N.

WRU: Resistant to water penetration and absorption of the upper. (EN ISO 20344; 0.2 g-30%).

C: Footwear providing resistance to electricity under 100MΩ.

HI: Footwear providing thermal insulation against heat.(EN ISO 20344; 22°C/30 min).

E: Energy Absorption in the heel area. (EN ISO 20344; 20 J).

CI: Footwear providing insulation against cold. (EN ISO 20344; 10°C/30 min).

A: Shoes that dissipate electrostatic charges. Resistance between 0.1MΩ and 1000 MΩ.

HRO: Resistance to hot contact (300° C).

WR: Water resistant footwear.

SB: Safety footwear for professional use with toe cap that resist impacts up to 200 Joules and compression up to 15 KN.

Sole resistant to hydrocarbons.

OB: Occupational footwear for professional used without safety toe cap.

$$S1 = SB + A + E \quad S2 = S1 + WRU \quad S3 = S2 + P$$

$$O1 = OB + A + E \quad O2 = O1 + WRU \quad O3 = O2 + P$$

SRA: Slip resistance on ceramic tile floor with detergent.

SRB: Slip resistance on steel floor with glycerin.

SRC: Slip resistance on ceramic tile floor with detergent and steel floor with glycerin.

For models marked with P or S3, the resistance to perforation of this footwear has been tested in the laboratory with a truncated nail of 4.5 mm diameter, exerting a force of 1,100 N. If larger forces or smaller diameter nails are given, it will increase the risk of penetration. In such circumstances, alternative preventive measures should be considered.

Currently, two generic types of inserts with piercing resistance are available for footwear: metallic inserts and non-metallic ones. Both types meet the requirements of resistance to penetration established by the standard marked on the footwear, but each of them has additional advantages or disadvantages, among which are the following:

Metallic inserts: are less affected by the shape of the sharp object (i.e. the diameter, the geometry, the sharpness of the object) but due to the limitations of the shoemaking process, does not cover the entire sole surface of the shoe.

Non-metallic inserts: they can be lighter, more flexible and offer a greater coverage surface compare to metal insert, but their resistance to perforation can vary, depending more on the shape of the sharp object (i.e. the diameter, the geometry, the sharpness of the object).

For more information about the type of piercing resistant insert your footwear contains, contact the manufacturer or supplier indicated in these instructions.

ONLY RISKS FOR WHICH THE CORRESPONDING SYMBOL IS SHOWN ON THE SHOE ARE COVERED. ALL ELEMENTS ADDED LATER, CAN MODIFY PRODUCT CHARACTERISTICS.

Footwear must be replaced according to UNE-CEN ISO / TR 18690: 2006 when it exists:

- The beginning of pronounced cracking that affects half the thickness of the upper.
- Severe abrasion of the upper or deformations on it.
- The sole shows cracks of more than 10 mm in length and 3 mm in depth.
- Upper / sole separation of more than 10 mm in length and 5 mm in width.
- Height of the sole in the flexion area less than 1.5 mm.
- It is convenient to manually check inside the footwear from time to time, in order to check the lining.

The EC type certificate indicates the name of the notified body and laboratory that submitted the model to the EC type examination, which may be, according to the case, INESCOP (Campo Alto Industrial Estate, Elda, SPAIN), INTERTEK (Center Court, Leicester, UK) or CIMAC (C / Brodolini, No. 19, Vigevano, ITALY).