



# HEALTH AND SAFETY SOLUTION



**FOOD  
MANUFACTURING**

# Health & safety solution

## FOOD INDUSTRY ISSUE

The biggest challenge in food processing is managing Health and Safety on the one side and Cost Control on the other side. Cost Control is key to being able to remain competitive in this market. Within Health & Safety a lot of effort is being put in reducing the risks of slips & trips and cross contamination.

- **Slips & trips:** account for 25% of all the severe injuries in the food processing environment. Governmental bodies are running successful campaigns and regulations to lower the number of injuries on the workforce. Proper footwear is seen as a key element in reducing the risk of slips and trips.
- **Cross contamination:** in food processing affects the whole population and is therefore a major topic. Current issues in for example meat industry created a focus on food safety. Proper cleaning and colour coded work wear in factories limits the risk of cross contamination.



# Key Elements of Comfort

Working in a food processing facility often means walking and standing in chilled environments. The floors in food processing are often wet and slippery and run a high risk of contamination. This demands proper footwear.

Research among end-users indicated that there are 4 Key Elements of Comfort:

- 1) Most important is the demand for **protection and safety**. They need footwear that both protects their feet against slips and trips as well as falling / moving objects. The footwear must also protect against slips and trips on contaminated floors.
- 2) Boots need to be **nice and dry**: Proper insulating footwear keeps the feet warm and comfortable during 8+ hour shifts.
- 3) **Lightweight**: Walking an average of 10.000 steps a day, every gram amounts significantly to total moved weight and reducing fatigue.
- 4) **Durability**: Higher durability means less wear-in and being able to enjoy the comfort longer. End users associate durability with higher quality.

## WHAT ARE BOOTS MADE OF

In general there are three different materials that boots (or Wellingtons) are made of:

- 1) **PVC**: Versatile material making it a good entry level solution. Dunlop offers Acifort and PVC boots.
- 2) **Rubber**: Versatile material. Can create good slip resistance, but with a short durability. The boots are heavy and have poor insulating properties.
- 3) **Polyurethane (PU)**: Foamed material making boots lighter, more durable and with the best insulating properties. Dunlop developed Purofort®, a unique process where the raw materials are mixed and injected under high pressure to create a 'PU-boot'.

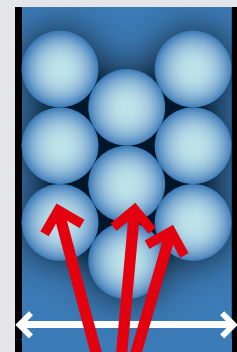
## DUNLOP SOLUTION

Dunlop® uses three different material technologies to deal with the issues in the factory environment:

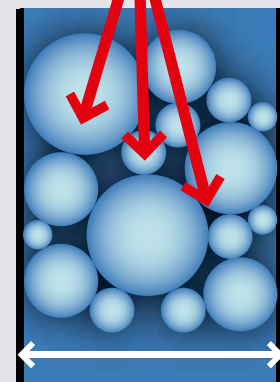
Purofort® is the best solution for both Slips & Trips and Cross Contamination:

- **Slips & Trips**: Purofort® represents the very best in protective footwear. These boots offer the highest level of comfort, safety and durability. The soles are especially constructed for reducing the risk of slips and trips in all situations.
- **Cross Contamination**: Purofort® boots are very easy to clean and are highly resistant to contamination during their entire lifetime. They can be offered in different colours for colour coding in a factory.

### PUROFORT® Thinner shaft



**PU**



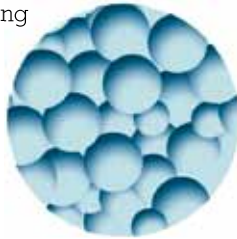
### LOW PRESSURE PU Thicker shaft

Through the high pressure a more even distribution of the PU-foam structure is created. The smaller air bubbles are similar in size creating a more a better and durable structure.

Benefit of the smaller air bubbles is that the shaft has a smoother surface and is more hygienic, offering superior resistance to contamination and bacteria.

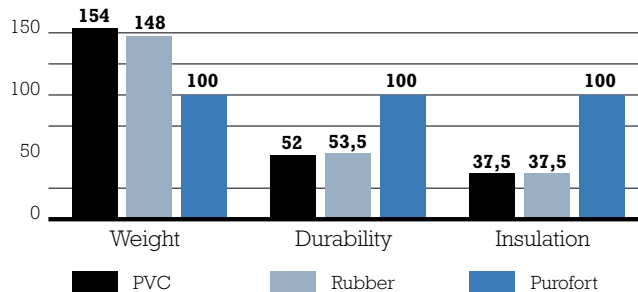
# The Purofort® Technology

Specialised high pressure manufacturing introduces millions of tiny air bubbles into the synthetic material during manufacture. This gives Purofort boots their remarkable properties.



As the graph shows Dunlop® Purofort® is the best solution for nice and dry feet, lightweight, and durability compared to other materials.

## Comparative properties:



## Protection / Safety

- Different sole patterns prevent clogging on a wide variety of surfaces.
- High slip resistant outsole profile
- Steel toecap for impact/penetration protection
- Resistant to chemicals, blood, oils and fats
- Anti-bacterial treatment

## THE ACIFORT TECHNOLOGY

Acifort = Acide + Comfort. Is a mixture of PVC and Rubber and especially developed for each individual industry. The unique combination of PVC, Nitrile rubber and polymers create a longer lasting, more durable and comfortable boot. Acifort compounds are constructed from 3 different components:

- **Antistatic** components
- **Nitrile rubber** creates a more comfortable boot. It ensures a longer lifetime, better resistancy to oil, fat, blood, chemicals and wear down
- **Polymers** guarantees the maximum lifetime for PVC boots

## Nice and dry

- Outstanding insulation: -20 Celsius for Purofort®  
-50 Celsius for Thermo+
- Flexible and supple even at very low temperatures
- Shock absorbing
- Gender specific fit

## Light Weight

- Lightweight; Save 2.500kg in moving weight per day. As the graph shows Purofort® boots are 35% (500g) lighter than traditional rubber boots. Walking 10.000 steps a day saving 250 grams per boot amounts to 2.500kg a day.

## Durable

- Tested in lab and in practice: Lasts up to 3 times longer than traditional boots
- High abrasion resistant
- Wear and tear resistant
- Easy to clean in a boot washer

- **Newest S5 & S4 safety standards**
- **New compounds increasing the durability and comfort**
- **New lining offering a more luxurious feeling**
- **Latest SRA-slip resistance certification**
- **Now in 2 colours for colour coding**

## Protection

- SRA-slip resistant outsoles for different environments
- 2 types of shafts for easy cleaning or extra support
- S5 & S4 safety standards: with steel toecap and midsole
- Colour coding: the boots are available in two colours for colour coding within the factory
- Anti-static: Reduce the risk of electrocution
- Highly resistant to the widest variety of chemicals, acids, blood, oils and fats

## Comfort

- Energy absorbing properties make these boots more comfortable than standard PVC boots
- 'Tricolour' model with special energy-absorbing midsole
- Lightest boot in the mid-segment

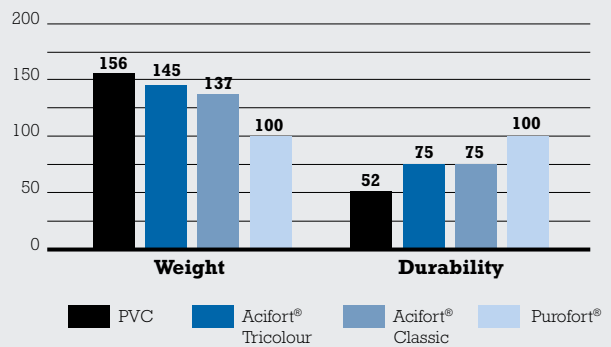


- New finer lining offering a more comfortable and luxurious feeling
- Sanitized lining for a healthy climate and prevention of odour in the boot

**Durability**

- Improvement in compound ensures 50% more durability than traditional PVC
- Less prone to staining, so white stays white
- Easy to clean with a boot washer – especially the Classic model

**Comparative properties:**



REACH compliant:

All **Dunlop boots** are produced according to the latest REACH-Norm and do not contain any kind of forbidden Phthalate.

# Slips & Trips Solutions

Dunlop uses the Slip Assessment Test (developed by the HSE) to analyse your slip potential, to offer you the best solutions.

Slips & Trips account for 25% of all the severe injuries in the workplace\*. As the graphic below shows there are 6 elements that play a key role in the slip potential. Footwear is the one area where you can control what people wear and predict how it will influence the slip potential. Governmental bodies are very keen on reducing the risk of slips and trips in the workplace and see floor material, contamination and footwear as the most important elements in reducing the risk on slips and trips.

## CERTIFICATION

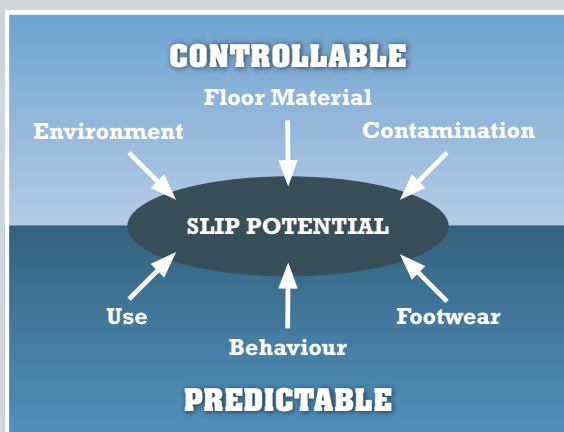
Boots can be certified for slip resistance. According to EN 20345 (European Regulations) there are three levels of certification:

**SRA:** Slip resistance on wet ceramic tiles

**SRB:** Slip resistance on glycerol contaminated steel floors

**SRC:** The highest certification for slip resistance is a combination of both SRA and SRB.

## ELEMENTS INFLUENCING SLIP POTENTIAL



\*source: <http://www.hse.gov.uk/food/slips.htm>



## Control Grip

- Multitude of varying slip environments
- Highly contaminated areas
- Maximum reduce risk of Slips and Trips
- SRC certified



## THERMO+

- Chilled environments (-50° celsius)
- Maximum reduce risk of Slip and Trips
- SRC certified



## HIGH Grip

- Single slip environment
- Wet contaminated areas
- SRA certified



<b>ARTICLE</b>	C151141
<b>DESCRIPTION</b>	Dunlop® Purofort® Control Grip safety
<b>SIZE RANGE</b>	36-38, 39/40, 41-47, 48/49
<b>STANDARD</b>	EN20345.SB.E.CI.SRC
<b>RESISTANCE</b>	Mineral, animal and vegetable oils and fats, disinfectants, manure, solvents, various chemicals

<b>ARTICLE</b>	C151641
<b>DESCRIPTION</b>	Dunlop® Purofort® Control Grip safety
<b>SIZE RANGE</b>	36-38, 39/40, 41-47, 48/49
<b>STANDARD</b>	EN20345.SB.E.CI.SRC
<b>RESISTANCE</b>	Mineral, animal and vegetable oils and fats, disinfectants, manure, solvents, various chemicals



**AVAILABLE COLOURS:**  
 GREEN  
 ORANGE

<b>ARTICLE</b>	C661143
<b>DESCRIPTION</b>	Dunlop® Purofort® Thermo+ safety
<b>SIZE RANGE</b>	37/38, 39/40, 41-43, 44/45, 46-48
<b>STANDARD</b>	EN20345.S4.CI.SRC
<b>RESISTANCE</b>	Mineral, animal and vegetable oils and fats, disinfectants, manure, solvents, various chemicals



<b>ARTICLE</b>	C261141
<b>DESCRIPTION</b>	Dunlop® Purofort® High Grip safety
<b>SIZE RANGE</b>	36-38, 39/40, 41-47
<b>STANDARD</b>	EN20345.S4.CI.SRA
<b>RESISTANCE</b>	Mineral, animal and vegetable oils and fats, disinfectants, manure, solvents, various chemicals

<b>ARTICLE</b>	C261841
<b>DESCRIPTION</b>	Dunlop® Purofort® High Grip safety
<b>SIZE RANGE</b>	36-38, 39/40, 41-47
<b>STANDARD</b>	EN20345.S4.CI.SRA
<b>RESISTANCE</b>	Mineral, animal and vegetable oils and fats, disinfectants, manure, solvents, various chemicals



# Cross Contamination Solution

## COLOUR CODING

One useful means of preventing cross-contamination in the food industry is by the implementation of an effective colour code policy. By assigning specific colours to a designated area the risk of cross contamination can considerably be reduced. There are different ways to colour code areas. It can be done by low care – high care – allergen region, but also by type of food. In addition to the food boots Dunlop offers a wide range of other colours to support colour coding.

### CONTROL GRIP SAFETY



### HIGH GRIP SAFETY



### PROFESSIONAL SAFETY



## Bacterial Infections

Whether it is during food preparation or cleaning, Listeria can end up on workers' footwear by walking on (wet) floors and over drains. If staff are not careful and do not take proper care in cleaning the boots they could potentially spread Listeria or other bacteria. By ensuring that boots are easy to clean the risk of contamination can be brought to a minimum.

Dunlop ensures that its boots are easy to clean.

The material when used will stay in perfect condition and not become scuffed. All boots are easy to clean in a boot washer during the entire lifecycle of the boot.





# Dunlop® Purofort® Professional Range



**EXTRA PROTECTION AND SAFETY**

**AVAILABLE COLOURS:**  
 GREEN

<b>ARTICLE</b>	C561141
<b>DESCRIPTION</b>	Dunlop® Purofort® Professional Ladies safety
<b>SIZE RANGE</b>	37-40
<b>STANDARD</b>	EN345.S4.CI
<b>RESISTANCE</b>	Mineral, animal and vegetable oils and fats, disinfectants, manure, solvents, various chemicals

<b>ARTICLE</b>	C361141
<b>DESCRIPTION</b>	Dunlop® Purofort® Professional safety
<b>SIZE RANGE</b>	36-38, 39/40, 41-47, 48/49
<b>STANDARD</b>	EN345.S4.CI
<b>RESISTANCE</b>	Mineral, animal and vegetable oils and fats, disinfectants, manure, solvents, various chemicals



**AVAILABLE COLOURS:**  
 GREEN

**COLOUR CODING**

**EXTRA PROTECTION AND SAFETY**

<b>ARTICLE</b>	C361641
<b>DESCRIPTION</b>	Dunlop® Purofort® Professional safety
<b>SIZE RANGE</b>	36-47, 48/49
<b>STANDARD</b>	EN345.S4.CI
<b>RESISTANCE</b>	Mineral, animal and vegetable oils and fats, disinfectants, manure, solvents, various chemicals



**AVAILABLE COLOURS:**  
 GREEN

**LIGHTWEIGHT & FLEXIBLE**

<b>ARTICLE</b>	D360141
<b>DESCRIPTION</b>	Dunlop® Purofort® Professional
<b>SIZE RANGE</b>	39/40, 41-47, 48/49
<b>STANDARD</b>	EN347.04.CI
<b>RESISTANCE</b>	Mineral, animal and vegetable oils and fats, disinfectants, manure, solvents, various chemicals

<b>ARTICLE</b>	D560141
<b>DESCRIPTION</b>	Dunlop® Purofort® Professional Ladies
<b>SIZE RANGE</b>	37-40
<b>STANDARD</b>	EN347.04.CI
<b>RESISTANCE</b>	Mineral, animal and vegetable oils and fats, disinfectants, manure, solvents, various chemicals



# Dunlop Food Manufacturing H&S solutions



**SLIP  
RESISTANT**

<b>ARTICLE</b>	C151141
<b>DESCRIPTION</b>	Dunlop® Purofort® Control Grip safety
<b>SIZE RANGE</b>	36-38, 39/40, 41-47, 48/49
<b>STANDARD</b>	EN20345.SB.E.CI.SRC
<b>RESISTANCE</b>	Mineral, animal and vegetable oils and fats, disinfectants, manure, solvents, various chemicals



**COLOUR  
CODING**

<b>ARTICLE</b>	C151641
<b>DESCRIPTION</b>	Dunlop® Purofort® Control Grip safety
<b>SIZE RANGE</b>	36-38, 39/40, 41-47, 48/49
<b>STANDARD</b>	EN20345.SB.E.CI.SRC
<b>RESISTANCE</b>	Mineral, animal and vegetable oils and fats, disinfectants, manure, solvents, various chemicals



<b>ARTICLE</b>	C561141
<b>DESCRIPTION</b>	Dunlop® Purofort® Professional Ladies safety
<b>SIZE RANGE</b>	37-40
<b>STANDARD</b>	EN345.S4.CI
<b>RESISTANCE</b>	Mineral, animal and vegetable oils and fats, disinfectants, manure, solvents, various chemicals



**AVAILABLE  
COLOURS:  
GREEN  
ORANGE**

<b>ARTICLE</b>	C661143
<b>DESCRIPTION</b>	Dunlop® Purofort® Thermo+ safety
<b>SIZE RANGE</b>	37/38, 39/40, 41-43, 44/45, 46-48
<b>STANDARD</b>	EN20345.S4.CI.SRC
<b>RESISTANCE</b>	Mineral, animal and vegetable oils and fats, disinfectants, manure, solvents, various chemicals



<b>ARTICLE</b>	C261841
<b>DESCRIPTION</b>	Dunlop® Purofort® High Grip safety
<b>SIZE RANGE</b>	36-38, 39/40, 41-47
<b>STANDARD</b>	EN345.S4.CI
<b>RESISTANCE</b>	Mineral, animal and vegetable oils and fats, disinfectants, manure, solvents, various chemicals



<b>ARTICLE</b>	A782631
<b>DESCRIPTION</b>	Dunlop® Acifort® Tricolour full safety
<b>SIZE RANGE</b>	36-47
<b>STANDARD</b>	EN20345.S5.SRA
<b>RESISTANCE</b>	Acids, bases, Minerals, animal & vegetable oils & fats, disinfectants, blood, various chemicals



<b>ARTICLE</b>	C261141
<b>DESCRIPTION</b>	Dunlop® Purofort® High Grip safety
<b>SIZE RANGE</b>	36-38, 39/40, 41-47
<b>STANDARD</b>	EN20345.S4.CI.SRA
<b>RESISTANCE</b>	Mineral, animal and vegetable oils and fats, disinfectants, manure, solvents, various chemicals



**AVAILABLE  
COLOURS:  
GREEN**

<b>ARTICLE</b>	C361641
<b>DESCRIPTION</b>	Dunlop® Purofort® Professional safety
<b>SIZE RANGE</b>	36-48/49
<b>STANDARD</b>	EN345.S4.CI
<b>RESISTANCE</b>	Mineral, animal and vegetable oils and fats, disinfectants, manure, solvents, various chemicals



<b>ARTICLE</b>	171BV
<b>DESCRIPTION</b>	Dunlop® Protomastor safety
<b>SIZE RANGE</b>	36-48
<b>STANDARD</b>	EN345.SB
<b>RESISTANCE</b>	Minerals, animal & vegetable oils & fats, blood, disinfectants, manure, various chemicals



AVAILABLE COLOURS:  
GREEN



AVAILABLE COLOURS:  
GREEN



PROFESSIONAL



C361141  
Dunlop® Purofort® Professional safety  
36-38, 39/40, 41-47, 48/49  
EN345.S4.CI  
Mineral, animal and vegetable oils and  
fats, disinfectants, manure, solvents,  
various chemicals

D360141  
Dunlop® Purofort® Professional  
39/40-48/49  
EN347.O4.CI  
Mineral, animal and vegetable oils and  
fats, disinfectants, manure, solvents,  
various chemicals

D560141  
Dunlop® Purofort® Professional Ladies  
37-40  
EN347.04.CI  
Mineral, animal and vegetable oils and  
fats, disinfectants, manure, solvents,  
various chemicals



ACIFORT

SRA-SLIP  
RESISTANT

A781331  
Dunlop® Acifort® Tricolour safety  
36-47  
EN20345.S4.SRA  
Acids, bases, Minerals, animal &  
vegetable oils & fats, disinfectants,  
blood, various chemicals

B780331  
Dunlop® Acifort® Tricolour  
36-47  
EN20347.O4.FO.SRA  
Acids, bases, Minerals, animal &  
vegetable oils & fats, disinfectants,  
blood, various chemicals

A68133  
Dunlop® Acifort® Classic safety  
35-49  
EN20345.SB.A.FO.SRA  
Acids, bases, disinfectants,  
mineral, animal and vegetable  
oils and fats, blood

B680331  
Dunlop® Acifort® Classic  
35-49  
EN20347.O4.FO.A.SRA  
Acids, bases, Minerals, animal &  
vegetable oils & fats, disinfectants,  
blood, various chemicals



380BV  
Dunlop® Pricemastor  
35-47  
CE  
Mineral, animal and vegetable oils  
and fats, blood, disinfectants, manure,  
various chemicals

B370411  
Dunlop® Bicolour Wellie Shoe  
36-46  
CE  
Mineral, animal and vegetable oils  
and fats, blood, disinfectants, manure,  
various chemicals

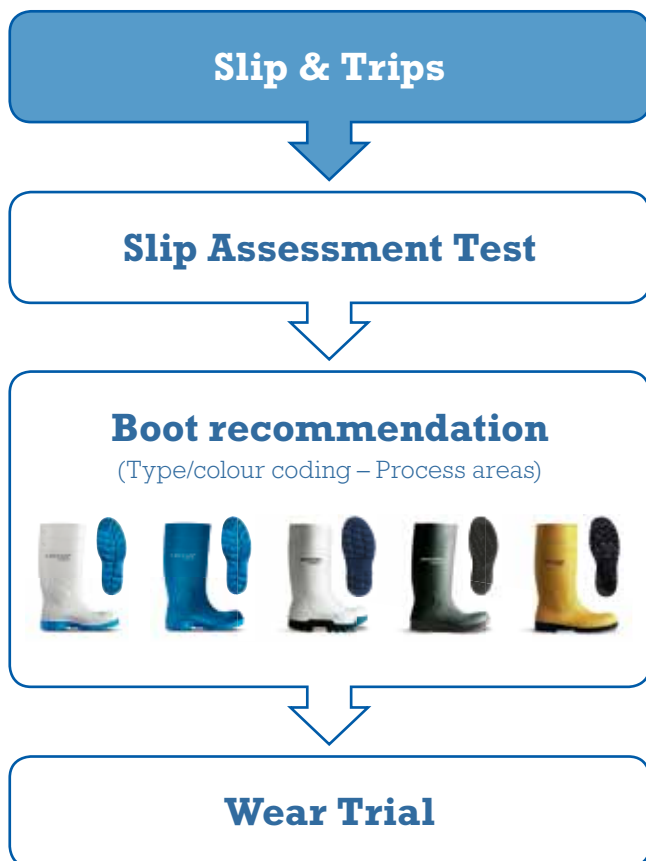




## Food processing industry approach

# In the UK Dunlop® is focusing on the “Food Processing Industry”

The Dunlop marketing department has started a Europe-wide project addressing direct manufacturers and production companies from the “Food processing industry”. The objective is not to sell boots directly to these companies, but collect valuable information about the use and place of use of boots and shoes, which can afterwards be incorporated into our product and range policy.



**Slips & Trips** is the second most common cause of serious injury in the workplace. After “manual handling”, comes slips & trips accounting for 25% of serious accidents. Therefore, worldwide costly campaigns are being made on prevention.

The **slip assessment test** analyses the floor conditions, soiling and the use of safety boots to determine the slip risk. This test has already been very successful in the UK market.

- The test has been developed by the British Employer's Liability Insurance Association: Health & Safety Executives (this is not a Dunlop test).
- This test is free.
- Dunlop creates a “Report” and gives a “Boot Recommendation”. Those addressed are free to decide on how to use the test results.

**Boot recommendation:** with the slip risk report Dunlop is able to give a boot recommendation. This takes into account, amongst others, the desired colour coding.

**Wear Trial:** based on the boot recommendation, Dunlop supplies boots for a practical test.

- Test phase 3 months.
- Dunlop provides free boots.
- For the test, the most “critical” employees should be listed
- Assessment
  - Questionnaire for each tester.
  - To be completed at the end of the wear trial.

If you have any further questions, please do not hesitate to contact us.

# The Dunlop heritage

## **INNOVATION**

At Dunlop® we design, develop and manufacture all our own high quality waterproof boots, embracing original expertise with new technology.



Product innovation is carried out by our technicians and Research and Development team, guaranteeing you 100% dedicated expertise in each boot. Manufacturing is carried out according to strict European Union regulations (REACH) at our Dutch and Portuguese

plants by Dunlop® specialists, so you know exactly when, where and how your boot was made. Our own experienced Dunlop® Customer Service department completes the team.

Dunlop® boots are characterised by innovation, protection and comfort. We bring these three key features together to bring you unique, professional workwear, designed specifically to suit the needs of you and your customers.

## **TRADITION**

Years of tradition have gone into Dunlop® waterproof work boots, originally founded in the 19th Century by a veterinary surgeon Scotsman, John Boyd Dunlop. John Boyd had a simple idea that changed the world. In 1888 he patented the pneumatic rubber tyre, opening his first tyre plant in Dublin, Ireland in 1889. His development revolutionized the industry.

By 1927 Dunlop had joined forces with Liverpool Rubber Co Ltd in England, and extended the range to include protective footwear. The Dunlop® work boot was born.

## **EXPERTISE**

Today, Dunlop® is a pan European market leader specialising in waterproof general purpose and professional work boots. We help improve the lives of around 10 million feet across the world each day. Dunlop® merged with the Dutch footwear specialist Hevea bv in 1996 to combine knowledge and skill and together we have developed the unique Purofort® material technology.

The company is a fusion of businesses whose roots go back through the Netherlands, United Kingdom, Ireland and Portugal; a strong combination of experiences, expertise and manufacturing capability originating from different climates, cultures and markets.



# Boot properties



**S5-  
CERTIFIED**



**S4-  
CERTIFIED**



**SB-  
CERTIFIED**



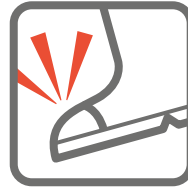
**O4 -  
CERTIFIED**



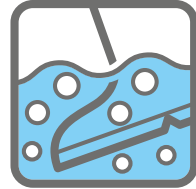
**CE-  
CERTIFIED**



**PROTECTIVE  
TOECAP  
+ MIDSOLE**



**PROTECTIVE  
TOECAP**



**WATERPROOF**



**SLIP RESISTANT  
OUTSOLE**



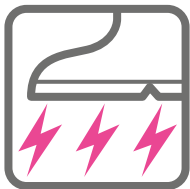
**OIL RESISTANT  
OUTSOLE**



**COLD  
INSULATION**



**CHEMICAL  
RESISTANT**



**ANTISTATIC**



**COMFORT**



**ENERGY  
ABSORBING**



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Tested & Certified by:

