



FLOOR GRAPHIC GUIDE FOR STADIUMS

Presented To:

Provided By:

Supported By:

DRYTAC[®]
ADHESIVE SCIENCE

Drytac Europe
Filwood Road, Fishponds, Bristol, BS16 3RY, United Kingdom
bristol@drytac.com Tel: +44 (0) 117 958 6500

www.drytac.com

FLOOR GRAPHICS

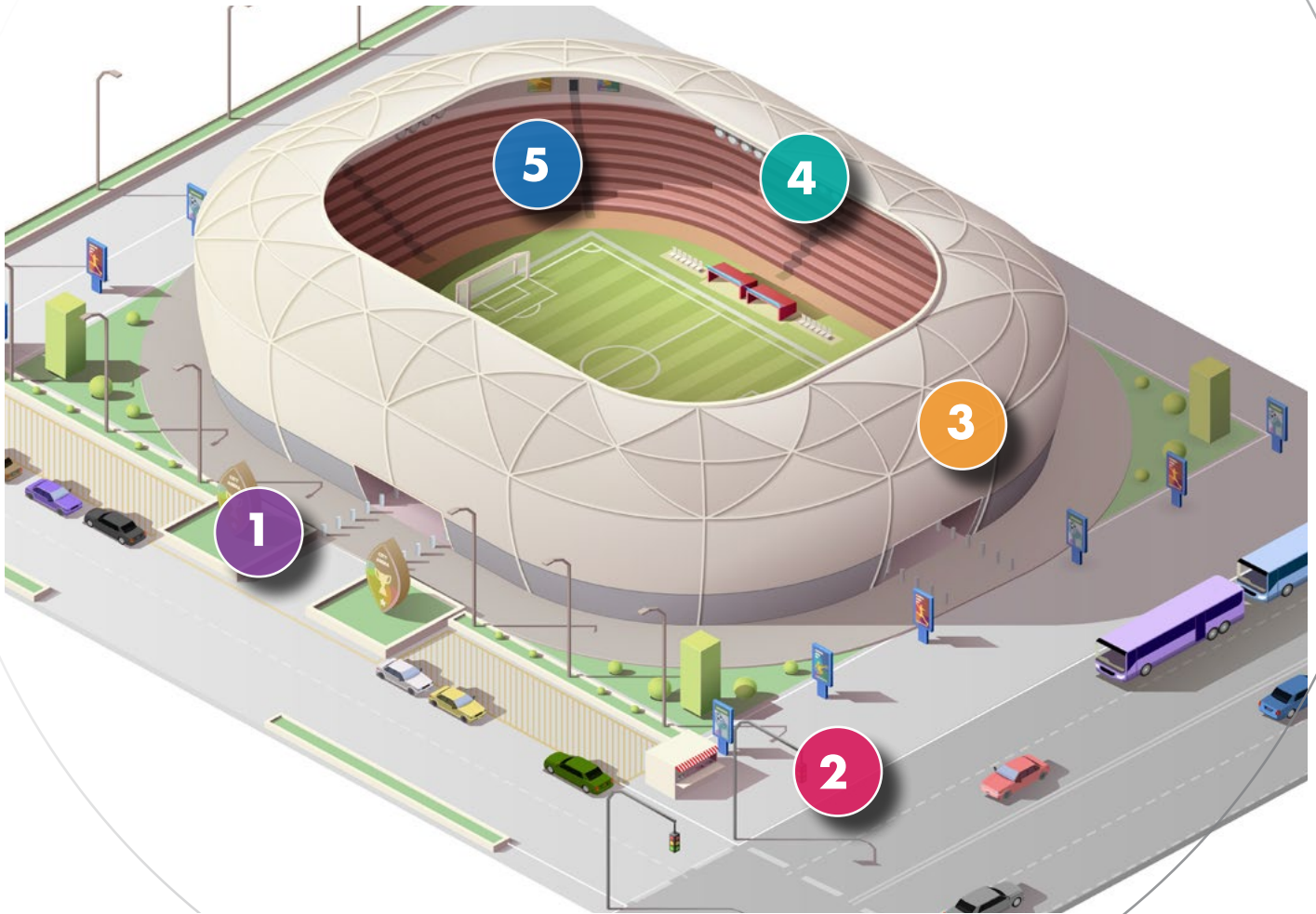
We Keep You Safe. We offer the correct ratings and insurance backed warranties to make your life easier. With hundreds of certifications on our print media and laminates we'd be happy to help you plan your next project.



Contents

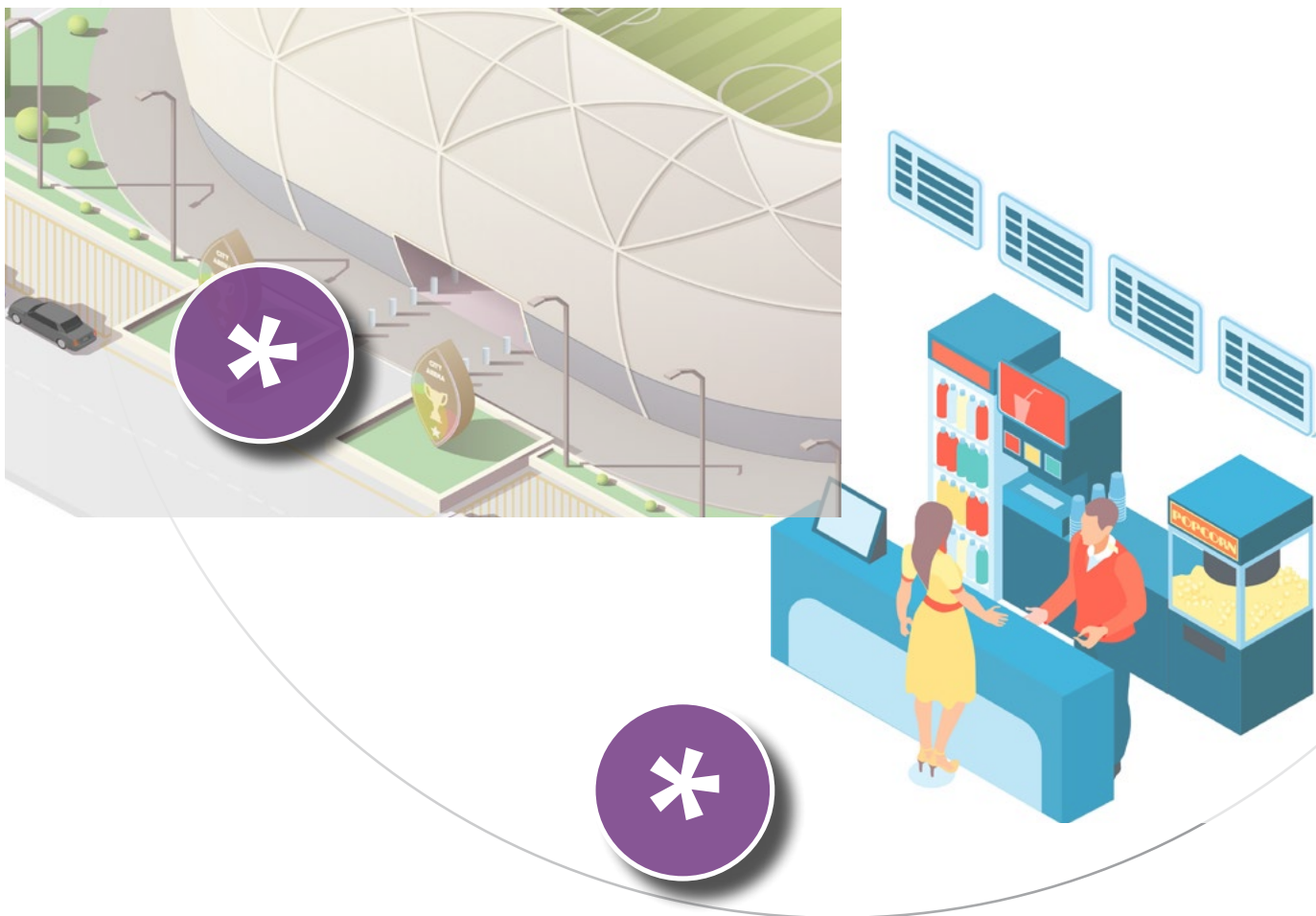
Locations and Surfaces for Floor Graphics	3
Outdoor Smooth Concrete/Brick	4
Outdoor Tarmac	5
Indoor Carpets	6
Indoor Tiles	7
Outdoor/Indoor Stairs & Seats	8
Technical Overview of Floor Graphics	9-10
Legal Responsibilities of Floor Graphics	10-14
Floor Graphic Warranty	15

FLOOR GRAPHICS



- 1** Outdoor/Indoor
Smooth Concrete and Brick
- 2** Outdoor Tarmac
- 3** Indoor Carpets
- 4** Indoor Tiles
- 5** Outdoor/Indoor Stairs & Seats

Indoor/Outdoor Smooth Concrete and Brick



Polar Grip with Interlam Pro Emerytex

Two part, fire and slip-rated combination designed for floor graphic use on a variety of smooth outdoor surfaces.

- ✓ Long Term - Up to 12 Months Outdoor
- ✓ Installed By Experienced Installer
- ✓ Low Slip Potential - 36 PTV

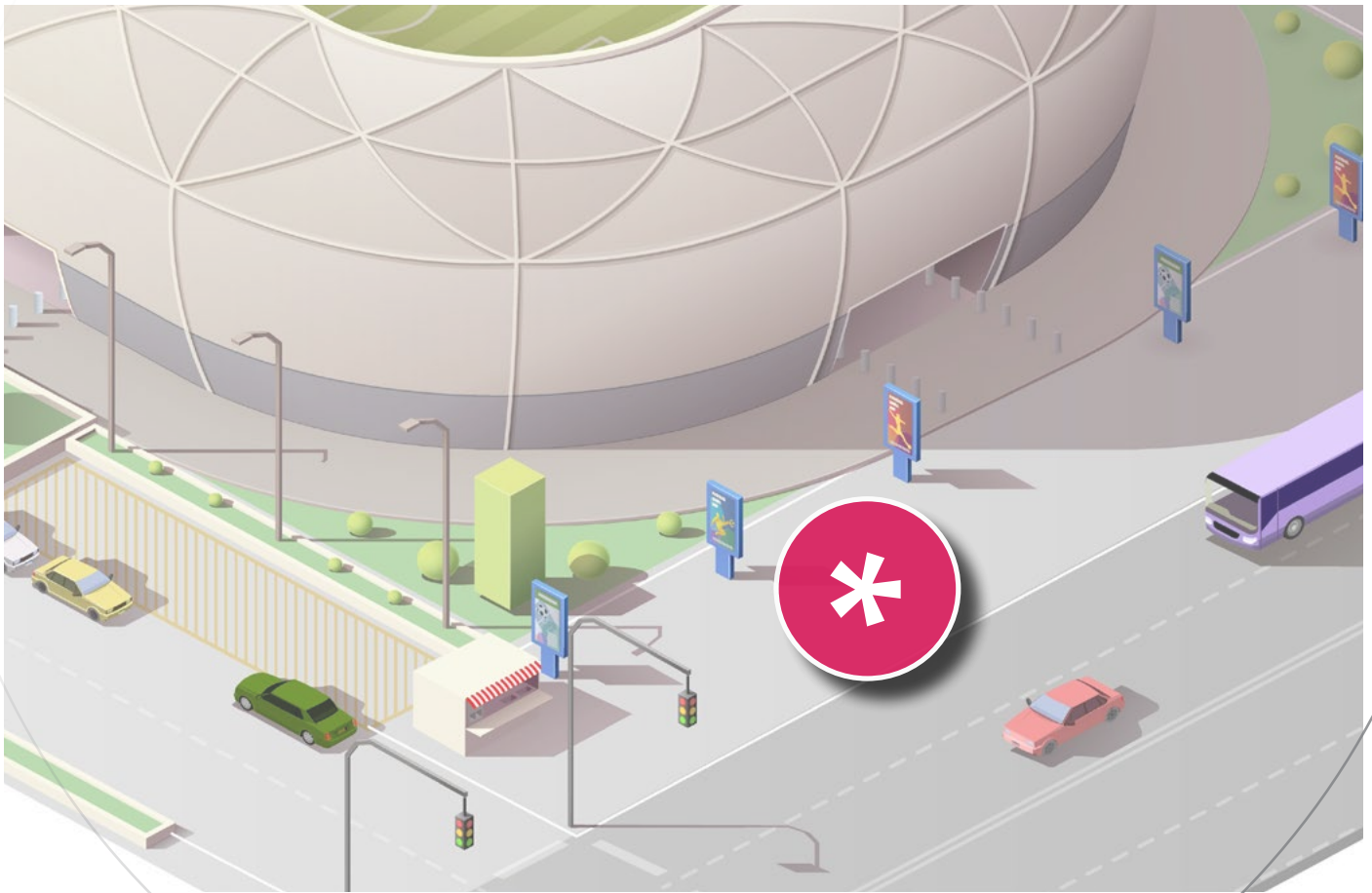
Polar Street FX



One part, fire and slip-rated floor graphic engineered for rough outdoor floor surfaces.

- ✓ Long Term - Up to 12 Months Outdoor
- ✓ Installed By Experienced Installer
- ✓ Low Slip Potential - 72 PTV

Outdoor Tarmac



Polar Street FX



One part, fire and slip-rated floor graphic engineered for rough outdoor floor surfaces.

- ✓ Long Term - Up to 12 Months Outdoor
- ✓ Installed By Experienced Installer
- ✓ Low Slip Potential - 72 PTV



SpotOn Floor 200

One part, no lamination needed, fire and slip-rated floor graphics for public spaces.

- ✓ Short-Term - Up to 6 Months Indoor
- ✓ Installed By Any Employee
- ✓ Low Slip Potential - 40 PTV

FloorTac Plus with Protac ScuffGuard

Two part, fire and slip-rated combination designed for floor graphic use on a variety of surfaces.

- ✓ Mid-Term - Up to 9 Months Indoor
- ✓ Installed By Experienced Installer
- ✓ Moderate Slip Potential - 32 PTV

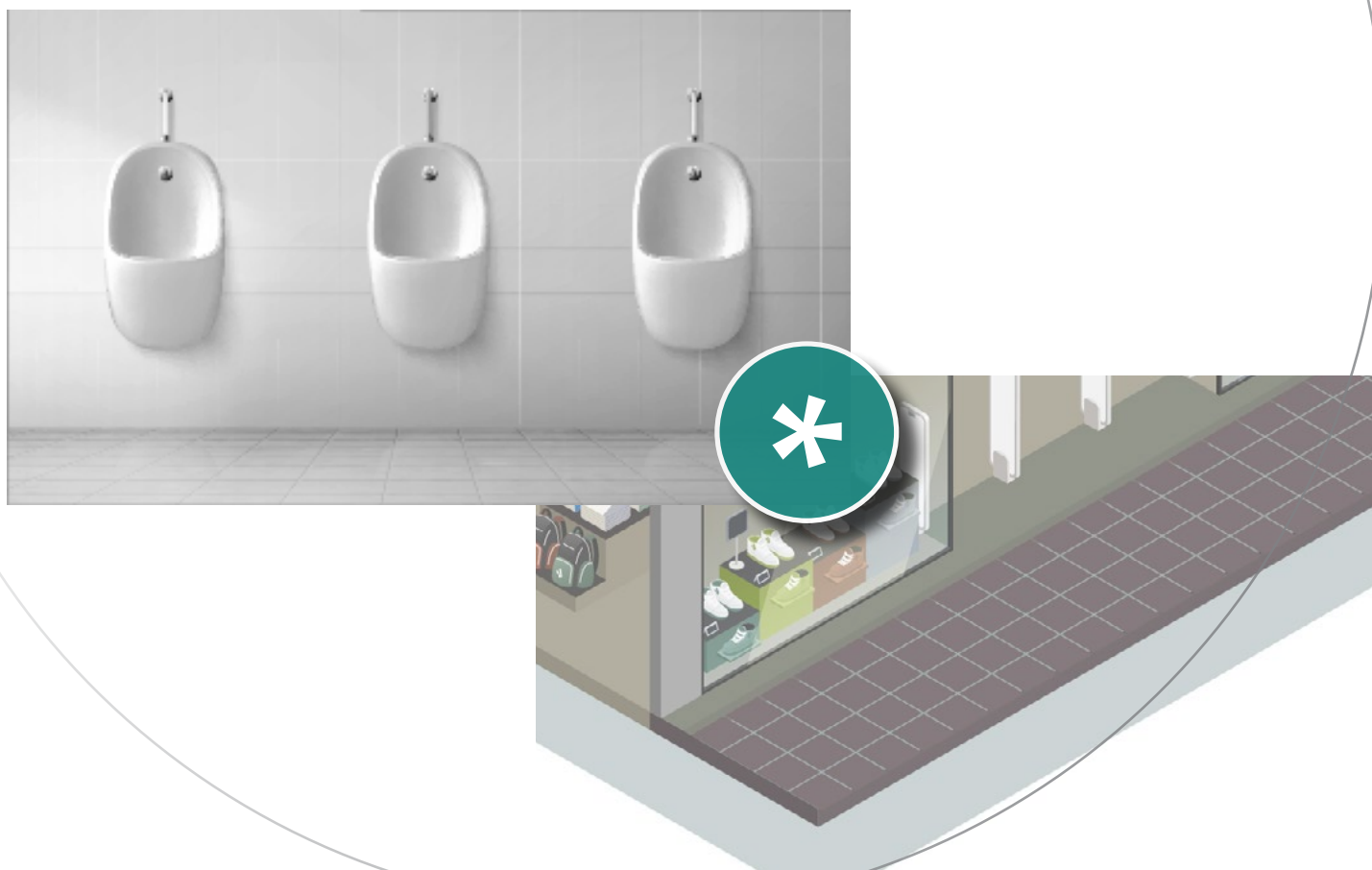
Polar Floor PET 170



One part, no lamination needed, fire and slip-rated PVC-free floor graphic material.

- ✓ Short-Term - Up to 6 Months Indoor
- ✓ Installed By Experienced Installer
- ✓ Low Slip Potential - 38 PTV

Indoor Tiles



SpotOn Floor 200

One part, no lamination needed, fire and slip-rated floor graphics for public spaces.

- ✓ Short-Term - Up to 6 Months Indoor
- ✓ Installed By Any Employee
- ✓ Low Slip Potential - 40 PTV

Polar Floor PET 170



One part, no lamination needed, fire and slip-rated PVC-free floor graphic material.

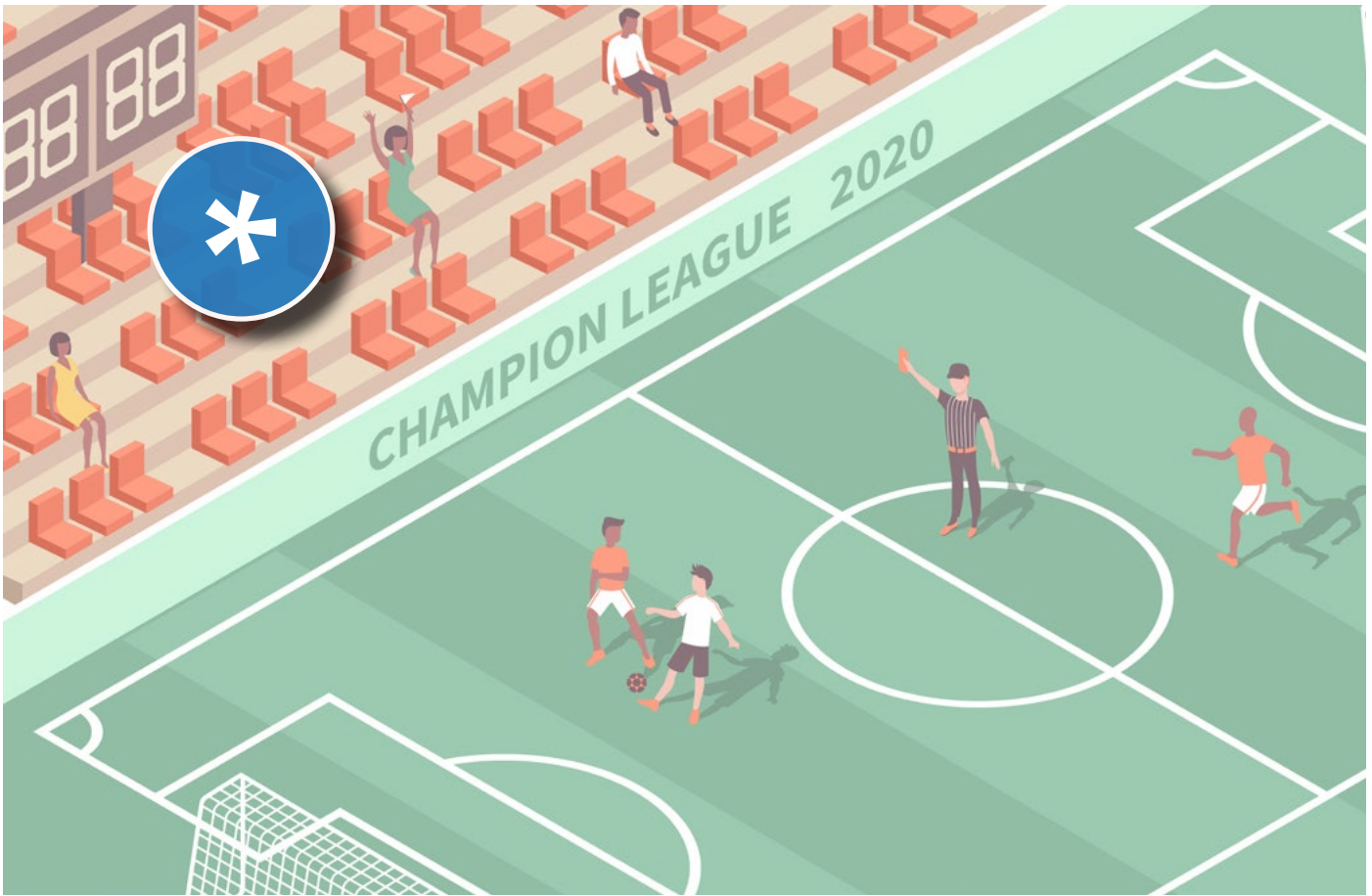
- ✓ Short-Term - Up to 6 Months Indoor
- ✓ Installed By Experienced Installer
- ✓ Low Slip Potential - 38 PTV

FloorTac Plus with Slip-Rated Overlaminates

Two part, fire and slip-rated combination designed for floor graphic use on a variety of surfaces.

- ✓ Interlam Pro Emerytex: Long-Term; 12 Months Indoor
- ✓ Protac ScuffGuard: Mid-Term; 9 Months Indoor
- ✓ Protac FloorTex: Short-Term; 6 Months Indoor
- ✓ Installed By Experienced Installer
- ✓ Please see page 10 for slip-ratings

Indoor/Outdoor Steps & Seats



STAIRS

Polar Street FX



One part, fire and slip-rated floor graphic engineered for rough outdoor floor surfaces.

- ✓ Long Term - Up to 12 Months Outdoor
- ✓ Installed By Experienced Installer
- ✓ Low Slip Potential - 72 PTV

BONUS PRODUCT HIGHLIGHT: SEATS

ReTac Smooth 150

Install, reposition and remove cleanly this fire rated white film - even years later

- ✓ Long-Term - Up to 5 Years Outdoor
- ✓ Installed By Any Employee

Polar Grip with Interlam Pro Emerytex

Two part, fire and slip-rated combination designed for floor graphic use on a variety of smooth outdoor surfaces.

- ✓ Long Term - Up to 12 Months Outdoor
- ✓ Installed By Experienced Installer
- ✓ Low Slip Potential - 36 PTV

WE KEEP YOU SAFE. In the UK, the Health and Safety Executive (HSE) only recognises slip ratings based on the Pendulum Test Method. This is in accordance with their assessment of slip resistance for flooring. It is extremely important that your supplier offers the correct ratings and insurance backed warranties. Here at Drytac, whatever your needs, from fire ratings to slip ratings to product liability insurance, we've got you covered. We work to certify our products to make your life easier. The last thing anyone wants is to create a health and safety risk. For more information, visit [HSE.GOV.UK](https://www.hse.gov.uk). For more information on slips and trips, visit [HSE.GOV.UK/Slips](https://www.hse.gov.uk/slips).

One Part Floor Graphic Solutions

SpotOn® Floor 200

- 200 micron printable textured monomeric PVC film
- Unique dot pattern removable adhesive
- Up to 6 months indoor durability
- Compatible with (eco) solvent, UV and latex wide-format inkjet printers
- Slip Rated
 - Low Slip Potential
 - Dry: 64 Wet: 40
 - (EN 13036-4 Pendulum Test)
- Fire Rated
 - B1 (DIN 4102-1)

Polar® Floor PET 170

- 170 micron printable textured PET film
- Clear re-positionable adhesive
- Up to 6 months indoor durability
- Compatible with (eco) solvent, UV and latex wide-format inkjet printers
- Slip Rated
 - Low Slip Potential
 - Dry: 65 Wet: 38
 - (EN 13036-4 Pendulum Test)
- Fire Rated
 - Class Bfl-s1 (EN 13501-1)

Polar® Street FX

- 250 micron printable textured white aluminium film
- High tack clear permanent adhesive
- Up to 12 months outdoor durability
- Compatible with (eco) solvent, UV and latex wide-format inkjet printers
- Slip Rated
 - Low Slip Potential
 - Dry: 75 Wet: 72
 - (EN 13036-4 Pendulum Test)
- Fire Rated
 - Class 1 or A (ASTM E-84)

PTV Values

High Slip Potential: 0-24

Moderate Slip Potential: 25-35

Low Slip Potential: 36+

Two Part Floor Graphic Solutions

FloorTac™ Plus with Protac ScuffGuard

- FloorTac Plus: 90 micron printable white monomeric PVC film with a removable grey adhesive
- Compatible with (eco) solvent, UV and latex wide-format inkjet printers
- Combined solution up to 9 months indoor durability dependent upon proper installation and foot traffic
- Protac ScuffGuard: 150 micron textured monomeric PVC laminating film with a solvent acrylic adhesive
- Slip Rated
 - Low Slip Potential: Dry: 62
 - Moderate Slip Potential: Wet: 31 (EN 13036-4 Pendulum Test)
- Fire Rated
 - Class 0 (BS 476 Part 6 and 7)

Polar® Grip with Interlam™ Pro Emerytex®

- Polar Grip: 80 micron printable white polymeric PVC film with a high tack grey adhesive
- Compatible with (eco) solvent, UV and latex wide-format inkjet printers
- Fire Rated
 - Class C-s1,d0 (EN 13501-1)
- Combined solution up to 12 months indoor & outdoor durability dependent upon proper installation and foot traffic
- Interlam Pro Emerytex: 100 micron matte pebble textured monomeric PVC laminating film with an acrylic adhesive
- Slip Rated
 - Low Slip Potential: Dry: 64 Wet: 36 (EN 13036-4 Pendulum Test)
- Fire Rated
 - Class 0 (BS 476 Part 6 and 7)
 - Combined Fire Rated: B_{fi} - s1 (EN 13501-1)

SpotOn® SynTac™ with Interlam™ EcoTex™

- SpotOn SynTac: 120 micron printable white PP film with a unique dot pattern adhesive
- Compatible with aqueous, (eco) solvent, UV and latex wide-format inkjet printers
- Combined solution up to 12 months indoor durability dependent upon proper installation and foot traffic
- Interlam EcoTex: 120 micron matte pebble textured PP laminating film with an aqueous acrylic adhesive
- Slip Rated
 - Low Slip Potential: Dry: 71
 - Moderate Slip Potential: Wet: 25 (EN 13036-4 Pendulum Test)

Other Drytac Floor Solutions

- Protac Floortex 200: 200 micron matte textured monomeric laminating film with solvent acrylic adhesive
- Slip Rated
 - Low Slip Potential: Dry: 72 Wet: 41 (EN 13036-4 Pendulum Test)
- Fire Rated
 - Class 0 (BS 476 Part 6 and 7)
- Protac Floortex 200 can be paired with Polar Grip or FloorTac Plus for a slip-rated floor graphic solution

PTV Values

High Slip Potential: 0-24

Moderate Slip Potential: 25-35

Low Slip Potential: 36+

With the surge in demand for floor graphics around the world, we have put together some frequently asked questions to ensure the supplier, the installer, and the application location are educated prior to printing.

What are slip-ratings and why are they important?

Slip ratings and certifications determine the suitability for a given product in a specific environment. They are important to keep consumers safe and avoid any potential hazards.

Why is it important to understand slip certifications?

It's important to fully understand slip certifications as this will have massive impact on the product you decide to use.

What different certifications are available?

In the UK and Europe there are 2 certifications used to rate the product and advise its suitability for floor applications.

DIN 51130:2010

Many European flooring manufacturers and floor graphics material manufacturers use ramp-type tests to classify the slip resistance of their products before sale. Such tests are generally carried out using German National Standard test method (DIN 51130:2010).

The DIN 51130 ramp test is designed to simulate the conditions commonly encountered in typical workplace slip accidents. DIN 51130 uses heavily soled EN:ISO 20345 safety boots with motor oil contamination.

The test method involves an operator walking forwards and backwards over a contaminated flooring sample. The inclination of the sample is increased gradually until the operator slips. The average angle of inclination at which slip occurs is used to calculate the slip rating of the flooring.

The result is based on the R (Ramp) scale which runs from R9 to R13, where R9 is a high risk of slip and R13 is the lowest risk. Floor surfaces that are classified by the DIN 51130 standard as R9 (or in some instances R10) could be slippery when used in wet or greasy conditions.

DIN 51130 R-Value Slip Resistance Classification

R Rating	R9	R10	R11	R12	R13
Slip Angle	6-10°	10-19°	19-27°	27-35°	35°+

BS 7976-2 / EN 13036-4

The pendulum test is the subject of a British Standard, BS 7976-2:2002 and is also seen as EN 13036-4:2011. The method involves a swinging arm, with a rubber slider mounted on the end that sweeps over the test area.

There are two standard sliders, slider 96 (4S) represents average pedestrian footwear and slider 55 (TRL) represents barefoot floor conditions. The friction of the flooring has a direct and measurable effect on the Pendulum Test Value (PTV) given. The test is carried out first in dry conditions and then after contamination with water.

Research has confirmed that the Pendulum Test Value (PTV) is a more reliable and accurate method for evaluating slip resistance. As a result, the HSE (Health and Safety Executive) and many insurance companies have adopted this as a standard test method for assessing slip resistance.

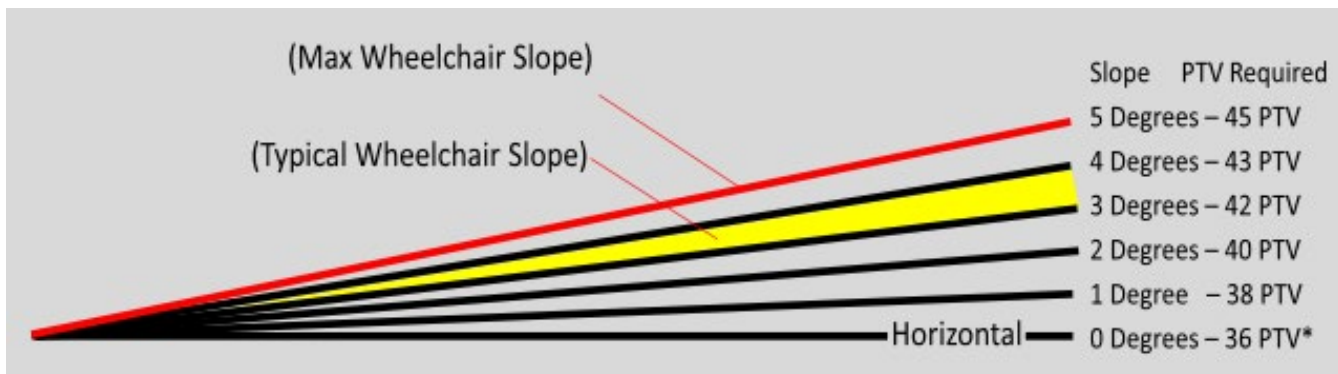
BS 7976-2 / EN 13036-4 Slip Resistance Classification

Pendulum Test Value (PTV)	0-24	25-35	36+
Classification	High Slip Potential	Moderate Slip Potential	Low Slip Potential

Inclined Surfaces:

To enable a person to walk normally on a slope the floor surface will need to provide a higher level of friction. On a horizontal floor the HSE expects a Pendulum test value of 36 PTV on a wet or contaminated floor, but for every 1 degree of slope the PTV value must increase by approximately 1.75 PTV.

Example: If the slope was 5 degrees the additional value of 9 PTV is required (5 x 1.75PTV) on top of the standard 36 PTV making 45 PTV required for that outside floor surface.



Using Slider 96 rubber gives enough information for assessing slipperiness for shod pedestrians. For assessing barefoot areas, Slider 55 rubber is used. (For profiled flooring it may be helpful to use both slider materials.)

What test method is recognised by the Health and Safety Executive (HSE) in the UK?

In the UK, the Health and Safety Executive (HSE) only recognise slip ratings based on the Pendulum Test Method. This is in accordance with their assessment of slip resistance for flooring; this information can be found on HSE.GOV.UK - <https://www.hse.gov.uk/pubns/geis2.pdf>

Will the HSE be involved with any accident in the workplace?

Any accident in either a work or public place will involve the HSE, it is also important that a RISK assessment of the location is done prior to application.

Are falls caused by slips?

Contrary to common knowledge most falls are not caused by slips, but trips. So it's more important that any graphics are securely adhered to the surface and there is no lifting of edges which can cause a trip.

How to avoid material lift with floor graphics?

- Test to ensure the adhesive is suitable for the surface. Leave a small printed sample in the required location for 24 hours and check the adhesion.
- If laminating, make sure the Printable PVC has been left for suitable outgassing time after printing, then laminate.
- Make sure the graphics have rounded edges rather than sharper corners.
- CLEAN the floor/surface prior to application – Dirt and contaminants will effect the adhesive bond strength to the floor/surface.
- Follow all instructions and guidance provided by Drytac prior to installation.

Who is responsible to make sure the graphic material is suitable for the application and environment?

It is the responsibility of the installer to make sure that all graphic materials are suitable for application based on location and installed as per the recommendations of Drytac.



Please see next page for other considerations.

Any other considerations?

- All floor graphic media will have a life span as recommended by the material manufacturer. Make sure the owner of the location is aware of the life span of the floor graphic material.

IMPORTANT: Floor graphics in higher foot traffic areas will be subject to more abrasion, so it is important that the owner or person responsible for the location has a suitable inspection and maintenance plan for the graphics. Any issues that could cause a hazard, please remove and replace as required.

- It is also the responsibility of your customer to remove any graphics that have come to the end of the product life according to the specifications of the sign maker and your materials manufacturer.

TIP: Print a small date or identification number on the graphic that can advise when the product needs to be replaced.

The installer must hold the correct employer, public and product liability insurance. In addition the product manufacturer also must have the correct product and public liability insurance. More specific information for the sign and graphics industry and advice can be provided by Signalite.co.uk.

Note: Each location may require a different minimum amount insurance cover, it is important that this is confirmed before installation.



Warranty

Company Name: End User Name:
Contact Name: Location Address:
Email:
Phone Number: Application Location:
Application Surface:

Product Specified:
Product Batch Number:
Batch PTV Values:
Batch Printed PTV Values:

Who Recommended The Product? Drytac Dealer End User Other:

Type of Printer Used:
Ink Type:

Installer Name:
Install Date:

Liability Insurance

All Drytac products have a public and product liability insurance to the value of £10 Million. It is important that all independent installers, print providers and location owners have their own public liability insurance in place.

Based on the above products specified and installed on date applied above, Drytac recommends inspection of these floor graphics to be reviewed by and each month thereafter, and replaced on or before , as this could invalidate any insurance liability/HSE protocols due to the stated Drytac product life expectancy on each of floor product systems.

Signature

Date

By signing the above, I agree that I have read and understand the various surfaces for floor graphics, technical specifications of floor graphics, legal responsibilities for floor graphics and how to properly install floor graphics from the specified application guide.

Want to fill the form out online? [Click here!](#)

DRYTAC
ADHESIVE SCIENCE

Drytac Resources:

We've compiled several application videos and application guides to help make your life easier.



Application Videos



Application Guides

What Does Drytac Do?

Drytac's unique adhesive science creates print media, protective films, and bonding tapes that deliver outstanding results. We engineer and manufacture solutions for you. We have the ability to create custom solutions to fit your exact needs. With various adhesive and film options we are sure to have the right fit for you.

Drytac Can Help.

Our knowledgeable and experienced staff would be happy to help! With offices, facilities and warehouses around the globe we can provide a solution in a fast and timely manner.

Contact Us Today!

Europe
Filwood Road,
Fishponds,
Bristol, BS16 3RY,
United Kingdom
bristol@drytac.com

Tel: +44 (0) 117 958 6500