

## DORSET WOOLLISCROFT FLOOR TILES

There is a duty of care upon all flooring designers, manufacturers, distributors, installers, contractors, and on the architects who specify flooring, to ensure that flooring surfaces are fit for purpose and do not pose any safety risks.

When it comes to specifying a floor covering, Dorset Woolliscroft fully vitrified floor tiles are your safest choice of floor tiles for many different situations, for both internal and external use. They all comply with and in most cases exceed recommended requirements and regulations after rigorous internal and independent testing.

### Important Information

Please read through the following information carefully. It sets out the current situation (at the time of printing this brochure) regarding current regulations, testing methods, specifications of Dorset Woolliscroft floor tiles, fixing, cleaning and maintenance information, and our limits of liability.

Please check the suitability of the floor tiles and fixings before specifying, ordering and installation. If you are uncertain please ask your Dorset Woolliscroft supplier or contact our Customer Services Department on 01392 473030 for further information and assistance.

## SLIP RESISTANCE

### Our Tiles

Our Dorset Woolliscroft products are tested for slip resistance and other properties using a range of methods (see 'Current Testing Methods' section below), and the results are included with the technical specification for each product. *Please visit [www.dorsetwoolliscroft.com](http://www.dorsetwoolliscroft.com) for further information or the relevant product pages in this brochure.*

Our tiles have also been independently tested by CERAM, the global expert in materials testing, analysis and consultancy. For more information please visit [www.ceram.com](http://www.ceram.com).

### Responsibility for Preventing Slips and Trips

According to the Health and Safety Executive (HSE) 'Slips and trips account for around one in three non-fatal major injuries, and for over one in five over 3-day injuries in workplace areas throughout Great Britain, a total of at least 35,000 injuries per annum (one serious slip accident every 3 minutes).'

Currently there are a number of different standards to deal with the issue of slip resistance for floor surfaces in the UK. However the HSE outlines the responsibilities for preventing slips and trips at workplaces and public areas for flooring manufacturers, architects and designers, employers, workers and footwear manufacturers.

With slips and trips being such a common health risk in most buildings, architects, specifiers and clients need to specify floors which are suitably slip resistant for their intended use not only for immediate usage but also for the longer term.

### Assessing and Testing Slip Resistance

#### The assessment of slipperiness: The HSE approach

The law requires that floors must not be slippery so they put people's safety at risk (The Workplace (Health, Safety and Welfare) Regulations 1992).<sup>1</sup> It was thought that the characteristics of floor surface materials needed for satisfactory slip resistance were difficult to assess. However, research carried out by HSL, in conjunction with the UK Slip Resistance Group (UKSRG) and the British Standards Institution, has shown they are not. The slipperiness of flooring materials can be accurately assessed by using commercially available, portable scientific test instruments.

<sup>1</sup> *Workplace health, safety and welfare. Workplace (Health, Safety and Welfare) Regulations 1992.*

*Approved Code of Practice L24 HSE Books 1992 ISBN 0 7176 0413 6*

The HSE has published comprehensive guidance of how and why slips and trips occur and how to prevent them. The current preference is for the use of the pendulum or the ramp based test methods for assessment of pedestrian floor surfaces or flooring materials, with additional information from surface roughness measurement where applicable. A software package to allow an operator to assess the slip potential of pedestrian walkway surfaces can be downloaded from the HSE website. For further information, please visit [www.hse.gov.uk](http://www.hse.gov.uk).

We recommend that specifiers seek expert and current guidance as the research into reproducible and representative tests to measure the slip resistance of flooring materials is ongoing.

We have set out the five main slip resistant measurements below to help you to choose the Dorset Woolliscroft tiles that most closely match the requirements of your installation.

# SLIP RESISTANCE CURRENT TESTING METHODS

## Pendulum Test BS7976-2 Rubber Slider

- For determining the coefficient of friction under wet and dry conditions using a Four S Rubber Slider (also known as Slider 96)
- Apparatus is portable (just); useful for determining slip resistance of floorings in use
- Presently accepted limits for flooring using this technique are:

SLIP POTENTIAL	SLIP RESISTANCE VALUE USING 4S
High	23 and below
Moderate	24 to 35
Low	36+

## Pendulum Test BS7976 Part 2 TRRL (Transport & Road Research Laboratory)

- A swinging test apparatus to determine the wet co-efficient of friction using a TRRL rubber slider

SLIP POTENTIAL	SLIP RESISTANCE VALUE TRRL 55
High	19 and below
Moderate	20 to 39
Low	40 to 74

\*All Dorset Woolliscroft tiles exceed the value of 36 in both wet and dry conditions.

## Shoe Shod Ramp Test DIN 51130

- For testing slip resistance of a surface to shoe shod traffic tested on a ramp in the presence of a surface lubricant
- Most useful for assessing profiled tiles, or tiles to be used in areas where there is a high risk of contamination
- NB: the lowest classification is R9, and as this is not a good specification for slip resistance, it should be supported by a pendulum value. The range for R9 has recently been changed from a 3° - 10° to 6° - 10° because of problems with misinterpretation of the R9 category.

R VALUE	DEGREES
R9	6° - 10°
R10	10° - 19°
R11	19° - 27°
R12	27° - 35°
R13	35° +

\*All Dorset Woolliscroft flat tiles are rated R10, all structured tiles are rated at least R11. For the full list please see pages 20-21.

## Surface Roughness Measurement (Rz)

- For measuring surface microroughness stated as an average roughness figure in microns, RzDIN, which may be useful to assess slip risk
- A portable test method using instruments such as Mitutoyo Surf test SJ201P, Surtronic Duo, Surtronic 25
- Most relevant on flat tiles, as it may not be possible to get a reading on a tile with an uneven surface
- Suitable for on site testing

### Slip readings - please note:

Values issued by Original Style for slip resistance relate to the test results as supplied from Ceram or from in house testing. These values can change during the lifetime of a tile as a result of the following factors: Surface wear / Poor cleaning regimes / Sealants or wax coatings, correctly or incorrectly applied / Chemical exposures which may acid etch the surface / Body fats build up especially when placed in barefoot areas

If in any doubt always retest the surface on a regular basis.

## Barefoot Ramp Test DIN 51097

- For testing the slip resistance of floor tiles under wet and barefoot conditions
- The tiles are fixed on a ramp which is made wet. A tester walks on them with the ramp set at a succession of increasing angles until the tester slips, and the angle at which the slip occurs is recorded.
- A, B or C classifications indicate slip resistance levels. We would normally recommend that tiles for use in wet barefoot areas achieve classification B or C, depending on the incline of the floor.

CAT.	LOWER LIMIT	UPPER LIMIT	AREA
A	12°	18°	<ul style="list-style-type: none"> <li>• Barefoot hallways (mainly dry)</li> <li>• Individual and group changing rooms with lockers</li> <li>• Pool floor in the non swimmer areas, where the water level exceeds 80cm</li> </ul>
B	>18°	23°	<ul style="list-style-type: none"> <li>• Barefoot hallways, if not classified in A</li> <li>• Showers</li> <li>• Area surrounding the disinfectant sprayers</li> <li>• Pool surrounds</li> <li>• Pool floor in the non swimmer areas where the water level is less than 80cm in parts</li> <li>• Pool floor in the non swimmer areas in the tide effect pool</li> <li>• Lift slab areas</li> <li>• Paddling pools</li> <li>• Steps leading in to the water</li> <li>• Steps, of maximum 1m width with hand rails, leading into the water</li> <li>• Steps outside the pool area</li> </ul>
C	>24°		<ul style="list-style-type: none"> <li>• Steps leading into the water, if not classified in B</li> <li>• Foot paths</li> <li>• Inclined pool borders</li> </ul>

\*The Dorset Woolliscroft tiles which are suitable for wet barefoot areas are all C value. For the full list please see pages 20-21.

## Displacement Volume Value (V)

- The displacement volume value for a floor is the measure of the space between the foot and the floor surface
- Higher values relate to a greater volume of debris that can be held by the texture without compromising the slip resistance of the tile
- Values less than V4 are not recorded

V VALUE	VOLUME OF DEBRIS
V4	4cm <sup>3</sup> / dm <sup>2</sup>
V6	6cm <sup>3</sup> / dm <sup>2</sup>
V8	8cm <sup>3</sup> / dm <sup>2</sup>

\*There are a number of Dorset Woolliscroft tiles which are suitable for this type of location rated both V4 and V5 DVV. See pages 20-21.

Please visit [www.dorsetwoolliscroft.com](http://www.dorsetwoolliscroft.com) for all test results

## HYGIENE AND SLIP RESISTANCE REQUIREMENTS IN MANUFACTURING AND FOOD PREPARATION AREAS

Current hygiene legislation, together with Health and Safety Requirements and the Construction Design and Management (CDM) Regulations, place a requirement upon the specifier, building owner and facilities manager to eliminate all foreseeable risks, by design, by layout, and by specification of materials. Many factors need to be considered when deciding upon the best surfaces for installation. Hygiene (cleanability) and slip resistance are important factors in any working environment, but they should receive special attention when being specified for food preparation areas. Please visit [www.tiles.org.uk](http://www.tiles.org.uk) to download Technical Advice Note 7 for details regarding specifications and installation advice, and [www.legislation.gov.uk](http://www.legislation.gov.uk) for more details and the latest regulations.

### Independent Research Regarding Cleanability

Test results indicate that fully vitrified products are able to discourage the ingress of bacteria into the surface of the tile and facilitate the greatest ease of cleaning. Research carried out at Manchester Metropolitan University concluded that there was no significant difference in ease of decontamination between Dorset Woolliscroft fully vitrified tiles and stainless steel.

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## STAIN RESISTANCE

### Determination of Resistance to Stains - EN 10545-14

Testing for resistance to stains is done by subjecting the tiles to various substances and then attempting to remove them using a range of cleaning regimes. The substances used are pastes, oils, chemicals and films. The Classifications are 1-5, where 1 indicates that the stain could not be removed using standard cleaning procedures and 5 indicates that the stain could be easily removed.

The Paste, Chemical /Oxidising and Film Stain test results for all Dorset Woolliscroft tiles were a minimum of 4. See chart on pages 20-21 for results.

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## DEEP ABRASION RESISTANCE

### Deep Abrasion Resistance EN 10545-6

The degree to which the surface of a floor tile will withstand abrasion is tested under given conditions by measuring loss of volume using a rotating disc and abrasive material. The results are measured as Volume per mm ( $Vmm^3$ ). Hard wearing tiles must be measure lower than  $175Vmm^3$ .

All Dorset Woolliscroft tiles conform to the EN standard above.

## ACCESSIBLE DESIGN

The Equality Act 2010 imposes obligations on those concerned with the provision of services to the public in the private, public and voluntary sectors. Responding to these duties means that building designers and specifiers are required to anticipate and overcome restrictions that may prevent people with disabilities making full use of premises and surroundings.

Design solutions need to meet the needs of everyone, including those with visual impairments, simultaneously providing an attractive environment for all users. Contrasting colour schemes on critical surfaces, for example contrasting colours on step edges, help some people with visual impairments to have a heightened awareness of physical features.

### Light Reflectance Value

Coloured surfaces such as tiles and fittings can be measured for their Light Reflectance Value (LRV), where a score is given on a scale of 0 to 100. Dark, matt surfaces absorb a lot of light, for example, a matt black tile typically has a LRV of 6. Light, glossy surfaces reflect most of the light, so a pure white gloss tile typically has a LRV of 85. All other tile colours fit in between these two extremes. Where recommended to provide a contrasting colour scheme, building regulations recommend that tiles with a 30 point LRV difference or more are selected for adjacent surfaces, however a 20 point difference may be sufficient in large areas.

Adequate contrast can be achieved by selecting and installing tiles with a minimum of 20 to an optimum of 30+ LRV differentials in tonal variance, harmonising variance, or contrasting (opposing colour) variance.

LRV results for Dorset Woolliscroft tiles and fittings can be found on our website, [www.originalstyle.com](http://www.originalstyle.com)

Please refer to the following for more information:

- *BSI Code of Practice 'BS 8300:2009+A1:2010 Design of buildings and their approaches to meet the needs of disabled people'*
- *Building Regulations Approved Document M Access to and Use of Buildings and BS8300:2001 Amendment 1*
- *The Equality Act 2010 Code of Practice*

## FIXING

Grout: highly pigmented grout may stain the tiles. Please test before installation.

Please note, any fixing information mentioned above does not apply in the USA. In the USA please follow the recommendations of a reputable adhesive manufacturer and always comply with American National Standards Institution (ANSI) specifications as set out in the Handbook for Ceramic Tile Installation published by the Tile Council of America. Useful information can be found here: [www.ctioa.org](http://www.ctioa.org), [www.tileusa.com](http://www.tileusa.com)

### Movement Joints

For interior or exterior floor tile installations, movement joints should be located:

- over existing structural movement joints
- around the perimeter of the floor and where tiling abuts columns, curbs, steps and plant fixed to the base
- in large floor areas tiling should be divided into bays not exceeding 8-10m intervals. On suspended floors the bay size should be reduced and additional joints provided over supporting walls and beams

All floor tile joints should extend throughout the depth of the tile, bed and screed and should be 6-10mm in width.

They should be designed to avoid being subjected to the effect of wheeled traffic and where this is not possible metal reinforced joints should be specified.

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## AFTER FIXING

It is the responsibility of the owner to provide for routine inspection, appropriate maintenance, and to assure compatibility of all cleaning methods/products with grout and mortar manufacturers. Appropriate maintenance requirements are determined by the site environment and the specific use of the installation. All damaging contaminants must be removed from grout joints sufficiently and regularly to avoid permanent damage from exposure to food, biological waste, industrial chemicals and aggressive cleaning solutions. Consult manufacturers for recommended procedures.

## CLEANING AND MAINTENANCE

Follow the cleaning procedures outlined below to ensure that all Dorset Woolliscroft floors are maintained to a high standard of cleanliness, slip resistance, hygiene and appearance. Detailed cleaning specifications can be found at [www.dorsetwoolliscroft.com](http://www.dorsetwoolliscroft.com).

### Newly Laid Floors

There may be residual cement on the tile surface of newly laid floors. All traces of this must be removed by applying a mildly acidic decementing solution, which must be rinsed off thoroughly. Clean regularly as specified below.

### Regular Cleaning

Regular cleaning with warm water (or hot water for oil and grease) and a neutral or mildly alkaline (pH to 8) detergent will remove all but the most stubborn dirt.

Mix the detergent as recommended by the manufacturer. The water/detergent mixture must be left on the floor for enough time (5-15 minutes) to allow it to penetrate and emulsify the dirt. Rinse thoroughly with clean water to remove all traces of the detergent mixture.

Large areas of plain or textured surface tiles are best cleaned with rotary, cylindrical or reversing mechanical scrubbing machines as follows:

- 1 Use slow to medium speed rotation. If the machine has a suction drying facility, use it first with the suction facility switched OFF. This permits the water detergent mixture used in the scrubbing process to remain on the floor to penetrate the dirt layer.
- 2 Leave for at least 5-15 minutes to elapse, then repeat the scrubbing operation with clean water only and with the suction drying facility switched ON. It is the rinsing process which removes the dirt.
- 3 Spillages of oil, fat or any material likely to stain or cause a slipping hazard should be removed immediately by using detergent and hot water, followed by a cold water rinse.
- 4 Use warning signs or physically exclude people from wet cleaning areas until they are completely dry.

### Longer Term Maintenance

Clean the floor periodically using a rotary, cylindrical or reversing scrubbing machine with the addition of an abrasive powder or fine Silica Sand. These products scour the tiles, remove impacted dirt, and generally refresh the floor without damaging their surface. Remove the residue with clean water and rinse before it can dry out. If high velocity water jets are used for removal of stubborn dirt this will not damage the tiles, but may erode the joints if used regularly. If oil or grease is present, use the jet with warm or hot water and with a pH neutral detergent.

Please note that marks made during installation and with constant use may be more obvious on pale colours. Therefore even Dorset Woolliscroft fully vitrified tiles will require a certain amount of extra cleaning in areas prone to heavy soiling.

NB. These cleaning and maintenance instructions are Dorset Woolliscroft's recommendations and not necessarily exhaustive. The recommendations of manufacturers of cleaning equipment and materials should always be followed.

## ENVIRONMENT AND SUSTAINABILITY

### Environment

Our products are designed and manufactured with environmental issues in mind. We regularly evaluate our operations to improve in areas of energy and efficiency, reduction of emissions, ecological conservation and use of materials, and we are committed to continue to find new and innovative ways to achieve further improvements in our environmental performance. Our waste management policy ensures that waste is minimised.

### Life Cycle Cost and Sustainability

Life cycle costing is becoming increasingly important as manufacturers, architects and designers are challenged to provide and specify total cost-effective materials and solutions. Life cycle costing calculates the cost of a product over its whole lifespan, including owning, operating, maintaining, repairing, recycling and disposing. Dorset Woolliscroft fully vitrified floor tiles are Class A (A = lower overall environmental impact) and many studies support the view that porcelain tiling is the most economical flooring solution over a lifespan of 50 years.

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## DORSET WOOLLISCROFT SPECIFICATIONS

For detailed individual specifications of all tiles and fittings mentioned in this brochure, please visit [www.dorsetwoolliscroft.com](http://www.dorsetwoolliscroft.com).

All Dorset Woolliscroft tiles and fittings are manufactured to conform to BSEN 14411.

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## SHADING

Some very slight shade variation may occur between different sized tiles of the same colour. Before fixing tiles it is important to lay them out in good light to ensure that any shade difference is evenly distributed.

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## PHOTOGRAPHY

Owing to variations in studio lighting and printing inks, the tile colours shown in this brochure may differ slightly from those of the actual tiles. It is always advisable to request a sample.

## LIMITS OF LIABILITY

Dorset Woolliscroft accepts no liability for the faulty installation of its products. In the case of any claim relating to the tiles themselves, Dorset Woolliscroft's liability, to the extent permitted by law, is limited to either the replacement of the product or a refund of the cost of the product, and does not extend to cover any consequential loss. Claims must be reported within seven working days from receipt of the tiles.

Tiles must be inspected prior to installation and claims cannot be considered after the tiles have been installed.

Please be advised that installation constitutes acceptance of the quality, colour, size, texture and shade of the tiles. Dorset Woolliscroft warrants that its tiles conform to their description and are fit for their purpose. Dorset Woolliscroft makes no other express or implied warranty as to fitness or suitability of the products for particular installations. We extend no guarantees, express or implied, as to wear resistance or maintenance procedures. It is imperative to follow grout and adhesive manufacturers' instructions regarding their suitability with our products. If in doubt please consult the grout/adhesive stockist from whom you purchased the products. Dorset Woolliscroft makes no representations as to the fitness for purpose of third party adhesives and grouts.

Please note the use of certain acid based cleaning products may cause some of the tiles to react and change in character.

## ALSO FROM ORIGINAL STYLE

We can supply large format full bodied and glazed porcelain products for commercial and retail applications. Our extensive product portfolio also includes traditional and contemporary styles of mosaics, wall tiles, mouldings and borders in ceramic, glass, natural stone and metal, plus a range of mosaics for swimming pools and spas.

We are committed to providing a complete service to the specifier with full technical support in product selection, design and installation.

For more details of our ranges please visit [www.originalstyle.com](http://www.originalstyle.com)

