



D-marc

D-marc™ 105
Wind Resistant Demarcation System



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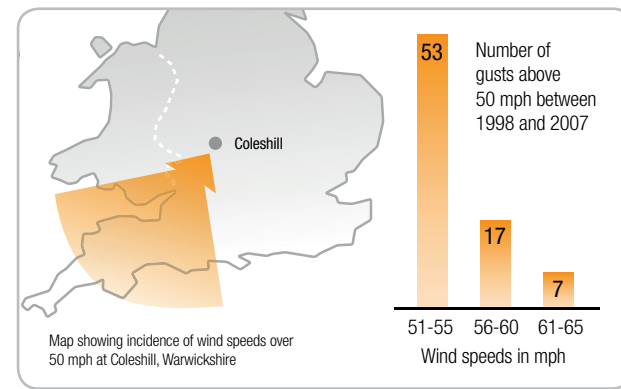
Wind Resistant Demarcation System

Traditional Systems and Wind Uplift

Traditional demarcation systems on rooftop applications suffer from instability and wind uplift causing them to fly off roofs at wind speeds as low as 50 mph. Guidance on whether your building will be vulnerable to such wind speeds can be taken from two areas:

BS6399-2: Code of practice for wind loads

- ▶ The BRE confirms that buildings are generally designed for wind speeds with an annual probability of exceedance of 0.02 i.e. a 1:50 year wind speed. If your demarcation system is intended to be left on the roof for one year or more, it should meet the same design parameters.



Met office figures

- ▶ Given that traditional demarcation systems become unstable at wind speeds of 50 mph, it is worth taking a look at the likely incidence of such an occurrence in the UK. If you take a typical UK urban location e.g. Coleshill in the Midlands, figures from the Met office show that over the past 10 years there have been 77 such events.

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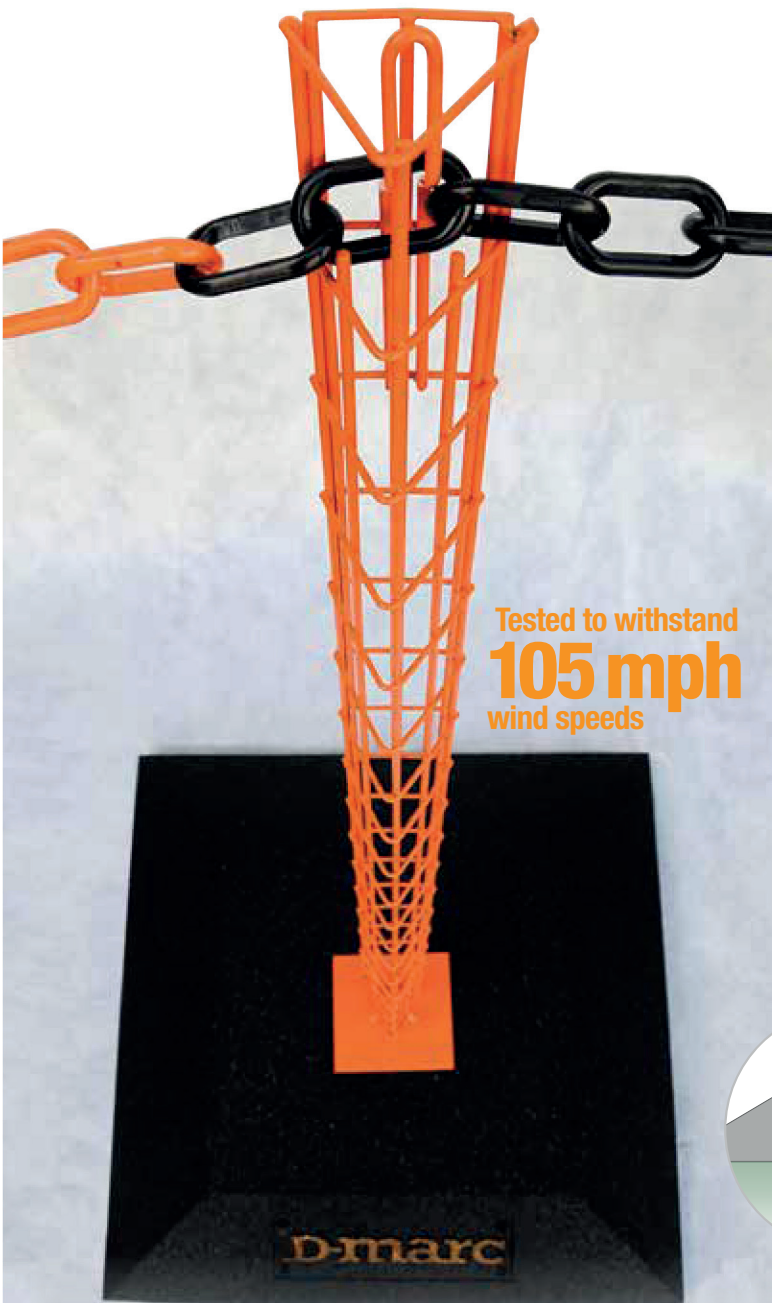
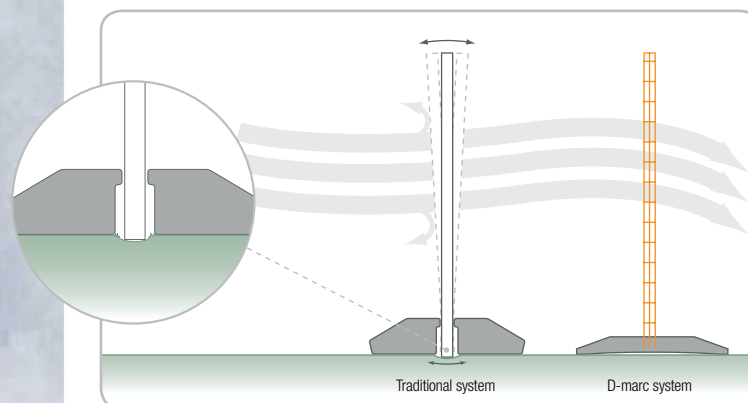
The D-marc™ 105 can withstand wind speeds of up to 105 mph due to the unique design of its base and upright which also eliminates any potential damage caused by oscillating.

The Upright

- ▶ The lattice structure ensures the wind circulates around and through the system rather than pushing it over.
- ▶ It's three connecting pins do not protrude through the base and therefore do not come into contact with the roof structure ensuring it cannot damage the roof even if it begins to oscillate.
- ▶ It has a non-protruding integral hook incorporated inside the lattice structure which ensures the chain cannot lift off the upright in high winds.

The Base

- ▶ The trapezoid base shape is aerodynamically designed with four pyramidal sloped sides at 30° which, in extensive wind tunnel testing was shown to be the most stable shape.
- ▶ The underside of the base is sculpted ensuring the weight is distributed to its perimeter, minimising the effect of wind uplift.



Areas of Use

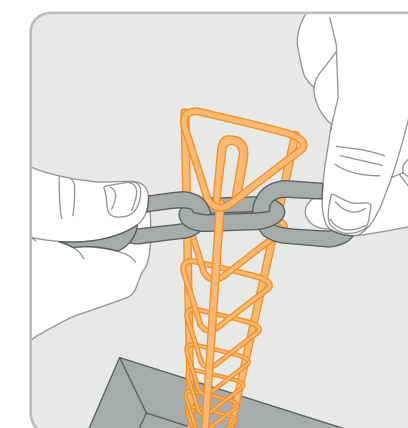
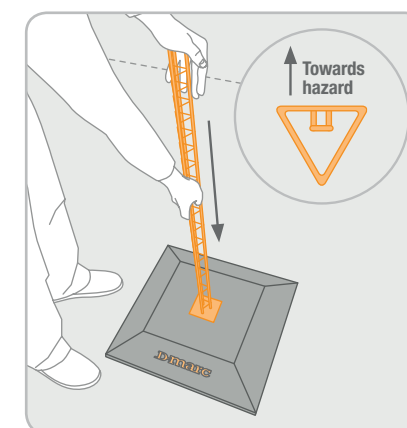
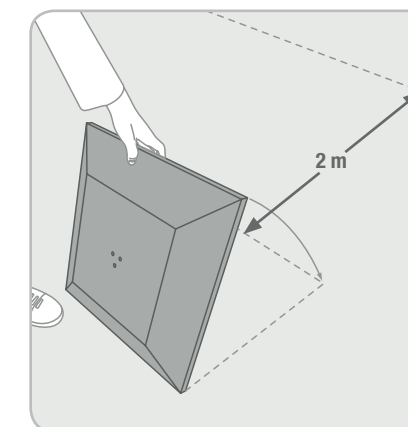
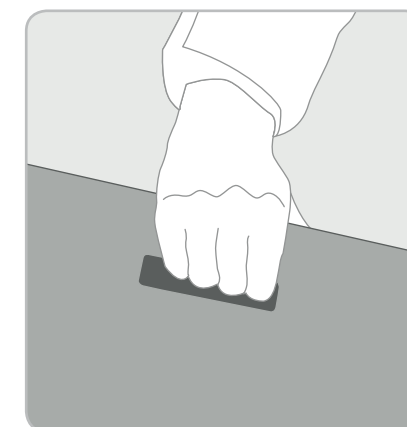
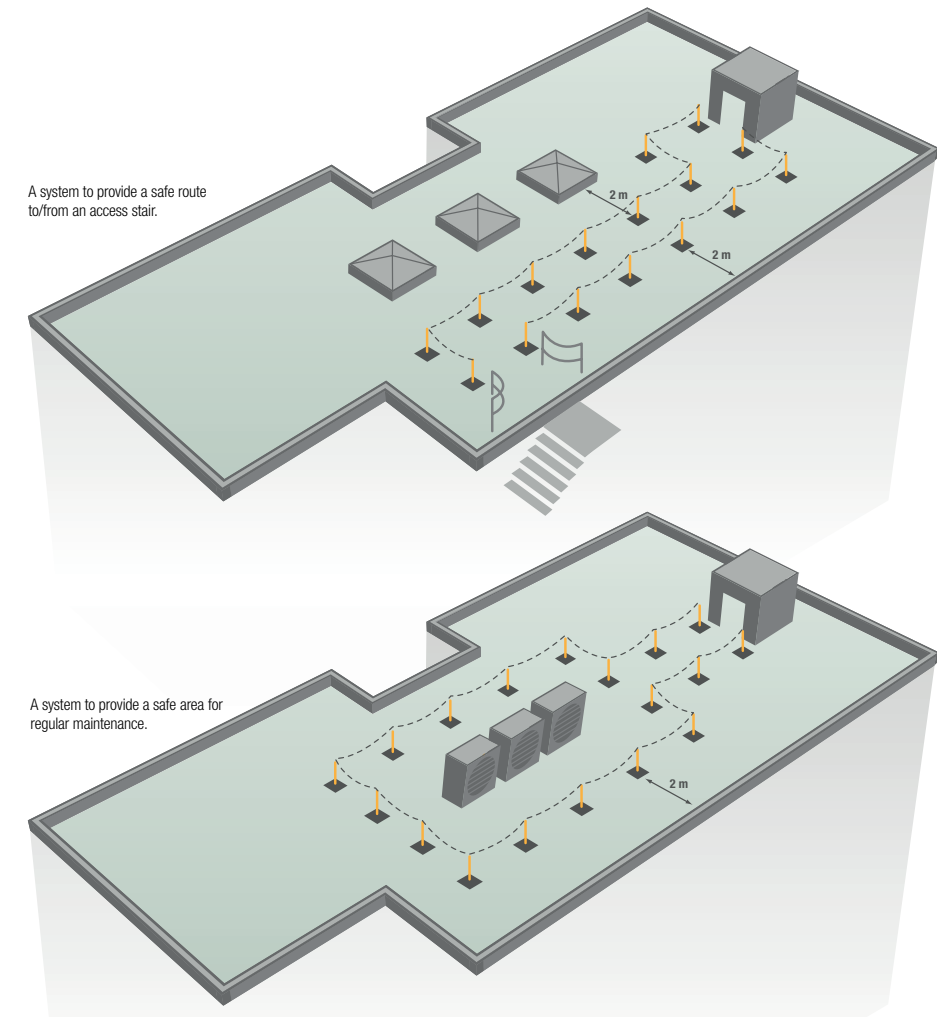
D-marc™ 105 provides a demarcation system for flat rooftops. Applications may be for the purpose of preventing access to hazards during regular rooftop maintenance or to provide safe access across the roof. Wherever roof access is required designers are tasked with creating a safe route which should be identified by a demarcation system.

D-marc™ 105 has been wind tunnel tested on single ply, bituminous and concrete roof surfaces resisting wind speeds in excess of 105 mph.

Legislation

D-marc™ 105 is classed as a form of Collective Protection in accordance with the HSE's hierarchy of risk management as set out within the Working at Height Regulations 2005 (WAHR). The WAHR 2005 Part 3 illustrate the use of a demarcation system as an "example of taking other additional suitable and sufficient measures to prevent a fall". The demarcation system is to be placed a safe distance from the fall hazard (normally >2 m).

Health and Safety in Roofwork HSG33 states that "where work is not done at the edge, demarcation barriers can be provided at a safe distance from the edge (usually at least 2 metres), e.g. work on an air-conditioning unit in the middle of a roof."



Installation

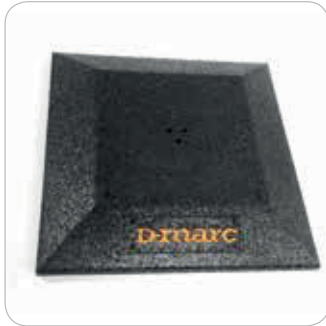
The system requires no specific training to install, the upright is slotted into the base and the chain is then placed on the hook on the upright and linked to the next section of chain with the chain link supplied.

There are no specific components for corners or curves, the system can follow the demarcation zone as indicated with the posts being placed at 3 m intervals.

Installers should ensure that the system is placed at least 2 m from any fall hazard and whilst being installed ensure that they are following the practices laid down by the The Work at Height (Amendment) Regulations 2007.

The base weights are designed with a carrying handle and weigh 16.8 kg each.

System Components



Base

The base is manufactured from recycled tyres complying with BS4790 for flammability, BS 1006 for UV stability and BS 7188 for slip resistance. Weight 16.8 kg



Upright

The uprights are manufactured from a 304 stainless steel to EN 1.4301. The powder coating process not only enhances lifespan, it gives a quality finish to the product.



Chain & Connecting Link

The plastic chain (25 m bag) and connecting links are fully weatherproof, resistant to salt, chemicals and frost. They are also colour-fast, anti magnetic and can be used within a temperature range of -10° C and +75° C.

Ordering

To calculate the required number of uprights and bases the required length of system should be divided by three and then add one. For example a 21 m length system requires 8 uprights and 8 bases. The chain comes in 25 m lengths and can be cut to size or joined using the chain links supplied. Orders can be made and paid for on our website system at www.D-marc.co.uk.

For large orders please email: info@d-marc.co.uk

Dimensions

D-marc™ 105 when installed will create a barrier system with an average installed height of 950 mm.

The sizing of the components that make up the system allow it to be packaged on a single pallet minimising packaging and waste.

