



**Certification of Compliance of BS 8442:2015 in relation to  
Retroreflective self-righting bollards (RSRBs) – TMP Metro**

Clause	Description	Complies or N/A
<b>13.1 General</b>		
13.1.1 Types	The RSRB shall be one of the following types:  Type A – Retroreflective fluorescent yellow conspicuity panels & retroreflective sign Type B – Retroreflective fluorescent yellow conspicuity panels & lit retroreflective sign Type C – Lit retroreflective fluorescent yellow conspicuity panels & lit retroreflective sign Type D – Lit Body (or Body or Base mounting) lit retroreflective fluorescent yellow conspicuity panels & lit retroreflective sign	Yes - Type A
13.1.2 Design	The RSRB shall incorporate one or more Traffic Signs or alternatively a plain white borderless roundel	Yes - Signs comply to TSRGD 2016
13.1.3 Height	The minimum height of the RSRB which displays a sign or roundel of less than 350mm shall be 900mm above the ground line.  The distance between upper extremity of the RSRB & the top of any roundel shall not be more than 70mm	Yes
13.1.4 Body	The body shall contain no sharp edges. Any curvature of a roundel shall be limited to one plane and shall have a radius of not less than 2000mm	Yes
13.1.5 Conspicuity Panels	Conspicuity panels shall be applied to the front & sides of all RSRB types; Rear conspicuity panels are optional. Conspicuity panels shall be retroreflective, fluorescent and yellow in colour.  The minimum projected area of the front or side conspicuity panel(s) shall be in accordance with Table 6. The lower edge of the conspicuity panels shall be a minimum of 100mm and a maximum of 200mm above the ground line.	Yes
Clause	Description	Complies or N/A



<b>13.2 Visual Performance</b>		
13.2.1 Chromaticity	When tested in accordance with the relevant procedure specified in CIE15, using CIE standard daylight illuminant D65 & the standard CIE45/0 viewing conditions, the chromaticity & the luminance factor $\beta$ of the yellow fluorescent conspicuity panels & the traffic signs or plain white roundel shall conform to Table 7	Yes
13.2.2 Photometric Performance	Retroreflective material shall conform to BS EN 12899-1:2007, Table NA.1B	Yes
<b>13.3 Physical performance</b>		
13.3.1 Adhesion to Substrate	Approximately 2/3 of the length of a 25 x 150mm strip of the retroreflective sheeting is mounted following the sheeting manufacturer's instructions onto a sample of the intended substrate at least 200 x 70mm in size. After conditioning the samples for 72hrs at a temperature of 23±3° C & a relative humidity of 50±5% a hanging strip with a mass of 0.8kg is applied to the free end of the sheeting strip. The extent to which the sheeting strip peels away from the substrate 5mins after application of the weight is measured. The amount of peeling shall not exceed 50mm	Yes – Backed by 3M 12yr delamination warranty
13.3.2 Corrosion Resistance	Metallic parts shall be protected against corrosion, including electrolytic corrosion in accordance with Table 8 & shall meet class SP1 or SP2	Yes - SP2
13.3.3 High impact resistance	When tested in accordance with BS EN 12767, the RSRB shall remain in position & no portion of the RSRB greater than 25g shall become detached. The RSRB shall return to its original position, or have a residual deflection of no more than 10% of its height, measured horizontally at the upper extremity, not more than 15mins after the time of impact  After impact, its mountings shall remain in place for not more than 15mins after the time of the impact & the residual rotation about the vertical axis shall not exceed 5°  When tested in accordance with BS EN 12767, the RSRB shall meet either 50NE4, 70NE4 or 100NE4 performance classifications	Yes – 50NE4

**Clauses 13.4 to 13.6 are not applicable to this product**