

RHINO BARRIERS



RHINO BARRIERS: THE SAFE SOLUTION FOR CONTROL, DELINEATION AND PROTECTION

Border Group is the sole manufacturer and distributor of Rhino Barriers, the world's leading Crash-Tested Safety Barrier System. Rhino is the barrier of choice for many leading Construction and Traffic Management companies and is used across a variety of applications including airports, stadium builds, construction sites and events.

MIRA tested to 50mph, the Rhino water-filled Restraint Barrier is Highways Agency-approved and provides an ideal solution which combines control, delineation and protection. With no ground drilling required, Rhino also has a wide range of 'add-on' features available. This flexibility includes mesh, hoarding and noise reduction panels that can be easily adapted and quickly assembled to meet Border Group clients' needs.

- Manageable, adaptable restraint system.
- Up to 144 metres per load.
- Tested freestanding – no ground drilling required.
- Impact strips protect the main body of the barrier.
- Should the side strips be damaged they can be replaced without removing the barrier.
- Reflective strips for high visibility.
- Up to 15° configuration.
- Can be man-handled into position, a pin drop system offers quick assembly.

BARRIER APPROVALS

- BSEN1317-N1 restraint up to
- 50mph (80kph) NCHRP350
- 2000kg/69.2km/25°
- Highways Agency Approved
- Accepted for use on all BAA Airports
- National Road Authority Ireland (NRA)
- Approved
- Norwegian Road Authorities Approval
- MIRA wind-tested
- See our website for results



BARRIER SPECIFICATIONS

- Length: 2m ground coverage
- Height: 0.90m
- Base Width: 0.65m
- Weight Empty: 170kg
- Weight Water Filled: 530kg

- ☒ Crash-tested
- ☒ Traffic Management
- ☒ Streetworks & Pedestrian Safety

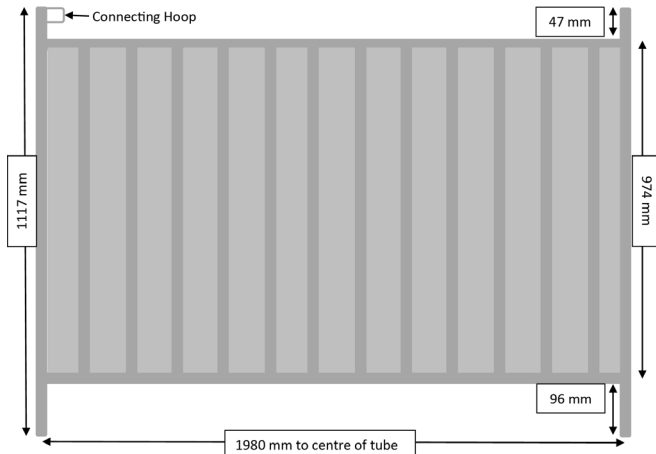
- ☒ Safety & On-Site Security
- ☒ Events & Festivals

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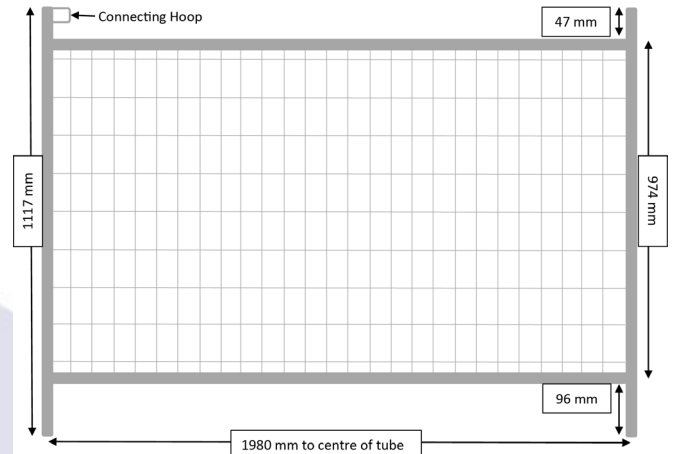
RHINO BARRIER PANEL OPTIONS AND DIMENSIONS

Rhino Barriers are available with the choice of hoarding or mesh panels in standard or extended sizes.

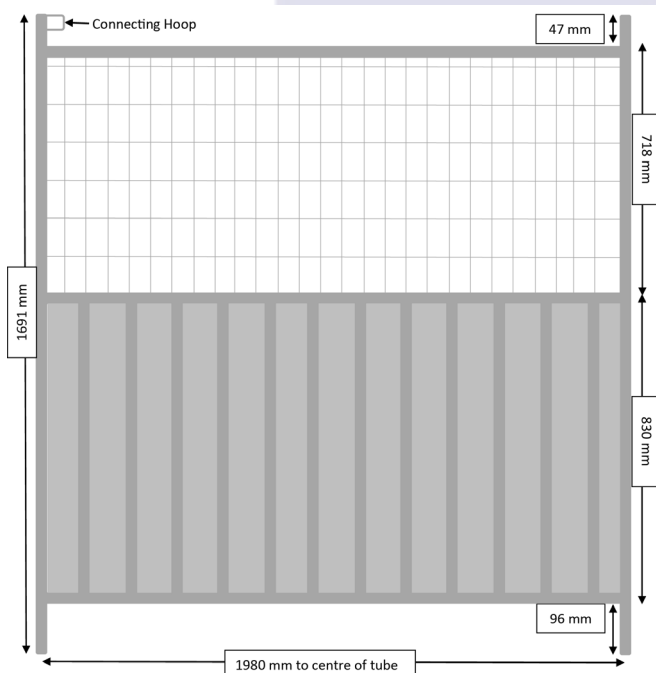
STANDARD HOARDING PANEL – FRONT FACING



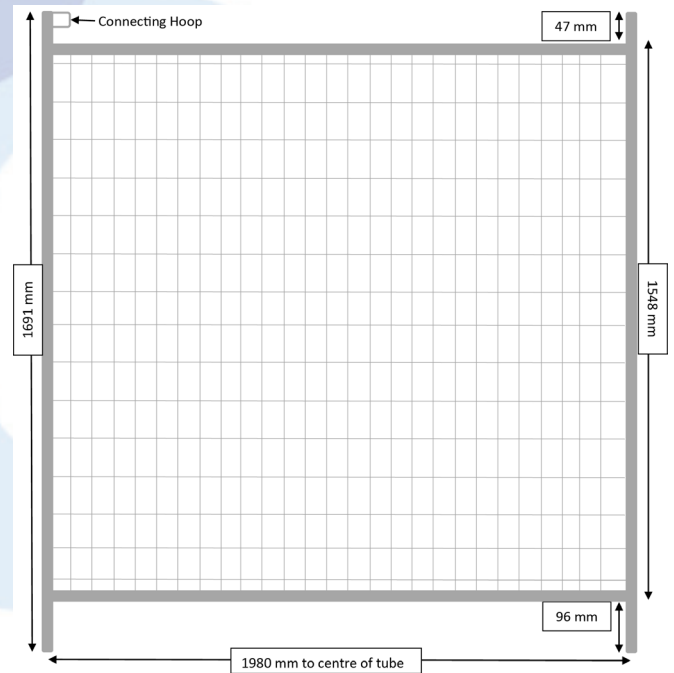
STANDARD MESH PANEL – FRONT FACING



EXTENDED MESH / HOARDING PANEL – FRONT FACING



EXTENDED MESH PANEL – FRONT FACING



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MIRA LTD WIND CONDITION TEST

The Restraint and Standard Rhino Barrier with associated panels were tested on 03/03/2011 at MIRA Ltd test centre. The test was to determine the maximum wind speed the product will withstand – the wind within the tunnel is a constant flow of air.

The attached report details specific information relevant to the test and associated wind mph speed achieved, the speeds can be related to the below Beaufort scale.

The following table gives the maximum wind speed achieved for each of the configurations tested when the barriers and end section were filled with water.

WIND SPEED DESCRIPTION: BEAUFORT SCALE			
FORCE	MPH	DESCRIPTION	EFFECTS (INLAND)
1	1 - 3	Light Air	Slight movement of smoke
2	4 - 6	Light Breeze	Wind felt on face
3	7 - 12	Gentle Breeze	Leaves move, flags flutter
4	13 - 17	Moderate Breeze	Small branches move
5	18 - 24	Fresh Breeze	Small deciduous trees sway
6	25 - 31	Strong Breeze	Wind heard as rushing and whistling noise
7	32 - 38	Moderate Gale	Quite large trees move, walking noticeably hampered
8	39 - 46	Fresh Gale	Branches break off trees, walking difficult
9	47 - 54	Strong Gale	Slates blown off roofs
10	55 - 63	Whole Gale	Trees uprooted
11	64 - 73	Violent Storm	Serious damage
12	74 plus	Hurricane	Devastation of all types

RESULTS SUMMARY FOR THE WATER-FILLED BARRIERS		
CONFIGURATION	DESCRIPTION	MAX. WIND SPEED
1	2x Restraint Rhino Barriers 1x End Section	74 mph
2	2x Restraint Rhino Barriers 1x End Section 2x Standard Mesh Panels	70 mph
3	2x Restraint Rhino Barriers 1x End Section 2x Extended Mesh Panels	70 mph
4	2x Restraint Rhino Barriers 1x End Section 2x Standard Hoarding Panels	40 mph
5	2x Restraint Rhino Barriers 1x End Section 2x Extended/Hoarding Mesh Panels	41 mph
6	2x Restraint Rhino Barriers 1x End Section 2x 2100mm Mesh Panels	67 mph
7	2x Restraint Rhino Barriers 1x End Section 2x 2100mm Hoarding Panels	22 mph
8	2x Standard Rhino Barriers 1x End Section 2x 2100mm Hoarding Panels	20 mph
9	2x Standard Rhino Barriers 1x End Section 2x 2100mm Mesh Panels	64 mph
10	2x Standard Rhino Barriers 1x End Section 2x Extended/Hoarding Mesh Panels	42 mph
11	2x Standard Rhino Barriers 1x End Section 2x Standard Hoarding Panels	40 mph
12	2x Standard Rhino Barriers 1x End Section 2x Extended Mesh Panels	70 mph
13	2x Standard Rhino Barriers 1x End Section 2x Standard Mesh Panels	70 mph
14	2x Standard Rhino Barriers 1x End Section	72 mph

On all tests with panels BBS used 2x Barriers and 1x End Section totalling 5 metres in a 7.94m wide tunnel. This configuration was used in order to cover the largest area possible within the tunnel therefore giving less space for the wind to bypass and maximising the wind force against the equipment.

The report lists a 2.98m high barrier and panel. This was for test purposes only and the product is not a stock item – if used we would recommend the additional use of backstays with the system as added protection unlike the other heights where backstays are not required.

Conclusion from the test results show barriers should be water-filled to the maximum fill point in all scenarios.