## 50MM DOUBLEDISC MB50 BALUSTRADE SYSTEM

### Installation / Fitting Instructions

#### SIDE FIX

(50MM) – Heavy Weight Anchor

<table>
<thead>
<tr>
<th>Product</th>
<th>Installation/Fitting Instructions</th>
</tr>
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</table>
| **Structure Fastening Installation**  
Typical Layout of MB50 – Double Disc Anchors. | • Verify the deck capacity can withstand the loads required for installation prior to fixing balustrade.  
• Using laser level or string line, cast level lines horizontally and vertically to find the centre points of the fastenings required for the building structure as detailed in the PS1.  
   – Minimum edge distance from top of structure to centre line of fixing is 50mm.  
   – Fixing layout centres are calculated as: 200mm in from glass edges; Equal spacing’s between corner fixings to match PS1 design tables.  
   – Height distances between rows are calculated as: 75mm for Residential purposes; 100mm for Commercial purposes. |
| **Backing Disc Installation**  
Structural fastening into backing Disc Tolerance. | • Install fastenings as per the given PS1 for structure type.  
• Fix MB50 backing disc to the fastening, tightening to 40Nm (if using the square cover kit option insert this as required).  
   – Ensure the backing discs are all on a level plane. If the building structure is not level:  
   – For MB50 Heavy Weight Anchor – add fibre gaskets (3 gaskets max.) or additional custom disc to a maximum of 100mm.  
   – For MB50 Adjustable Heavy Weight Anchor – adjust the backing disc within its designed tolerance of 10mm. |

**IMPORTANT NOTE:** The guide above is simplified, and should in no way be referenced in isolation. For full comprehensive substrate fixing details please refer through to the PS1.
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| **Glass Installation**         | • **NOTE:** when ordering glass ensure the hole diameters are 26mm.  
                                • Check that the hole locations in the glass panels align with the backing disc fastening locations.  
                                – MB50 Adjustable Heavy Weight Anchor comes with preformed 15mm diameter bush. Tolerance is taken up in the 20mm diameter glass hole.  
                                – MB50 Heavy Weight Anchor M10 bushes should be changed to BE20-M10 (eccentric) or BS20-M10 (slotted) bushes to allow for 2.0mm adjustment horizontally if required.  
                                • Install glass panels.  
                                – For MB50 Heavy Weight Anchor – use black fibre gasket to backing disc surface, suitable bush for tolerance (thickness to suit the glass t), black fibre gasket to outer disc and M10 fastening (length to suit the glass t).  
                                – M10 fastening must not clash with building structure fastening inside the backing disc.  
                                – For MB50 Adjustable Heavy Weight Anchor – use gaskets and M10 fastening supplied with the anchor.  
                                Fix the MB50 front disc through the glass panel to the backing disc, tightening to 40Nm (If using the square cover kit option insert this as required). |
| **Final Adjustment**           | 1. Check Glass panel gaps, levels and alignments of frit or similar pattern details. Align with setting blocks and/or spacers to suit.  
                                2. Check MB50 Double Disc anchors have been torqued to 40Nm.                                                                                                                  |
| **Cleaning**                   | Once everything is correctly in place and the job is complete, the glass and disc need to be cleaned. Use a non-abrasive glass cleaner on the glass and warm soapy water on the MB50 disc. We also recommend a soft sponge or cloth, again to avoid any risk of scratching. For full care and maintenance guidelines please refer to our comprehensive guide pages 778-779. |

**IMPORTANT NOTE:** The guide above is simplified, and should in no way be referenced in isolation. For full comprehensive substrate fixing details please refer through to the PS1.
**50MM DOUBLE DISC MB50 BALUSTRADE SYSTEM**

Section & Exploded Views

**DOUBLE DISC MB50 STANDARD FITTING**

**SECTION VIEW**

- Stainlesss or aluminium body:
  - SS - 30mm long standard, max 60mm.
  - Other lengths by request.
  - AL - 30mm only.
- Washer between boss & substrate
- Ø50mm disc fitting (CSK version shown)
- Installer to ensure continuous even bearing is provided between boss and substrate
- Thread engagement into MB50 boss:
  - Minimum 10mm, maximum 14mm
- Fastener to structure
  - M10 CSK socket screw
- Installer to ensure continuous even bearing is provided between boss and substrate
- Washer between boss & substrate

**EXPLODED VIEW**

- Ø50mm washers
- Nylon bush
- Ø50mm CSK disc
- M10 CSK socket screw
- Ø50mm main body (M10 thread)
50MM DOUBLE DISC MB50 BALUSTRADE SYSTEM
Concrete Fixing Detail

<table>
<thead>
<tr>
<th>Drawing No.</th>
<th>Revision</th>
<th>Fixing Type</th>
<th>Occupancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>MB50 / C / RA</td>
<td>R10</td>
<td>MB50 with rod anchor</td>
<td>A, B, E, C3</td>
</tr>
</tbody>
</table>

NOT SUITABLE FOR OCCUPANCY C1/C2, D OR C5

Refer to Double Disc MB50 balustrade system design table for required glass thickness, fixing spacings and fixing loads according to AS/NZS 1170.1:2002 for the occupancies listed above. Refer to design tables and elevations for post failure requirements. Interlinking rail / clips not shown for clarity. ‘H’ refers to top of barrier.

NOTES:
1) Capacity of structure is to be of sufficient strength to support loads M* and T* specified on Double Disc MB50 balustrade system design table. Structure capacity to be verified by building engineer prior to fixing balustrade.
2) Max loading to comply with AS/NZS 1170.1:2002 Minimum Imposed Actions for Barriers Occupancy, shown at top of drawing, for design in accordance with Double Disc MB50 balustrade system design table.
3) Penetration through a membrane must be completed in accordance with written instructions of the membrane manufacturer.
4) No substitution allowed - any variation from the details above and design tables will require specific design.

Concrete building structure to be designed by building engineer to support loads as specified on Double Disc MB50 balustrade system design table. Minimum 25MPa uncracked concrete, 210mm Min thickness.
Steel Fixing Detail

<table>
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<th>Fixing Type</th>
<th>Occupancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>MB50 / S / RN (OPEN)</td>
<td>R10</td>
<td>MB50 with rod &amp; nut</td>
<td>A, B, E, C3</td>
</tr>
</tbody>
</table>

NOT SUITABLE FOR OCCUPANCY C1/C2, D OR C5

Refer to DoubleDisc MB50 balustrade system design table for required glass thickness, fixing spacings and fixing loads according to AS/NZS 1170.1:2002 for the occupancies listed above. Refer to design tables and elevations for post failure requirements. Interlinking rail / clips not shown for clarity. ‘H’ refers to top of barrier.

NOTES:
1) Capacity of structure is to be of sufficient strength to support loads M* and T* specified on DoubleDisc MB50 balustrade system design table. Structure capacity to be verified by building engineer prior to fixing balustrade.
2) Max loading to comply with AS/NZS 1170.1:2002 Minimum Imposed Actions for Barriers Occupancy, shown at top of drawing, for design in accordance with DoubleDisc MB50 balustrade system design table.
3) Penetration through a membrane must be completed in accordance with written instructions of the membrane manufacturer.
4) For fixing to steel substrates, the installer shall ensure the bolts are tightened to a “snug-tight” level as defined in NZS3404.
5) No substitution allowed - any variation from the details above and design tables will require specific design.

Steel section with adequate fixing to structure for load specified on Double Disc MB50 balustrade system design table.
Refer to DoubleDisc MB50 balustrade system design table for required glass thickness, fixing spacings and fixing loads according to AS/NZS 1170.1:2002 for the occupancies listed above. Refer to design tables and elevations for post failure requirements. Interlinking rail / clips not shown for clarity. ‘H’ refers to top of barrier.

NOTES:
1) Capacity of structure is to be of sufficient strength to support loads M* and T* specified on DoubleDisc MB50 balustrade system design table. Structure capacity to be verified by building engineer prior to fixing balustrade.
2) Max loading to comply with AS/NZS 1170.1:2002 Minimum Imposed Actions for Barriers Occupancy, shown at top of drawing, for design in accordance with DoubleDisc MB50 balustrade system design table.
3) Penetration through a membrane must be completed in accordance with written instructions of the membrane manufacturer.
4) For fixing to steel substrates, the installer shall ensure the bolts are tightened to a “snug-tight” level as defined in NZS3404.
5) No substitution allowed - any variation from the details above and design tables will require specific design.
50MM DOUBLEDISC MB50 BALUSTRADE SYSTEM

Timber Fixing Detail

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<tr>
<td>MB50 / T / RN</td>
<td>R10</td>
<td>MB50 with rod &amp; nut</td>
<td>A, B, E, C3</td>
</tr>
</tbody>
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NOT SUITABLE FOR OCCUPANCY C1/C2, D OR C5

Refer to DoubleDisc MB50 balustrade system design table for required glass thickness, fixing spacings and fixing loads according to AS/NZS 1170.1:2002 for the occupancies listed above. Refer to design tables and elevations for post failure requirements. Interlinking rail / clips not shown for clarity. ‘H’ refers to top of barrier.

NOTES:
1) Capacity of structure is to be of sufficient strength to support loads M* and T* specified on DoubleDisc MB50 balustrade system design table. Structure capacity to be verified by building engineer where applicable or checked to NZS3604 requirements prior to fixing balustrade.
2) Timber decks designed to NZS 3604:2011 guidelines will meet loading requirement, except for decks including cantilever floor joists where specific design is required.
3) Max loading to comply with AS/NZS 1170.1:2002 Minimum Imposed Actions for Barriers Occupancy, shown at top of drawing, for design in accordance with DoubleDisc MB50 balustrade system design table.
4) Penetration through a membrane must be completed in accordance with written instructions of the membrane manufacturer.
5) For fixing to timber substrates, the installer shall ensure that the bolt / coach screw is sufficiently tightened to reduce movement of the bolt head and washer. Care should be taken not to over tighten the fixings that would cause crushing of the timber or compromise the thread leading to anchor pull-out.
6) No substitution allowed - any variation from the details above and design tables will require specific design.
7) Fixings to timber must be re-tightened 2 months after installation and periodically thereafter to allow for timber shrinkage.
1) Capacity of structure is to be of sufficient strength to support loads $M^*$ and $T^*$ specified on Double Disc MB50 balustrade system.

**NOTES:**
- Rail / clips not shown for clarity. ‘H’ refers to top of barrier.
- Refer to DoubleDisc MB50 balustrade system design table for required glass thickness, fixing spacings and fixing loads according to AS/NZS 1170.1:2002 for the occupancies listed above.
- Refer to design tables and elevations for post-failure requirements. Interlinking rail / clips not shown for clarity. ‘H’ refers to top of barrier.

2) Timber decks designed to NZS 3604:2011 guidelines will meet loading requirement, except for decks including cantilever floor joists where specific design is required.

3) Max loading to comply with AS/NZS 1170.1:2002 Minimum Imposed Actions for Barriers Occupancy, shown at top of drawing, for design in accordance with DoubleDisc MB50 balustrade system design table.

4) Penetration through a membrane must be completed in accordance with written instructions of the membrane manufacturer.

5) For fixing to timber substrates, the installer shall ensure that the bolt / coach screw is sufficiently tightened to reduce movement of the bolt head and washer. Care should be taken not to over tighten the fixings that would cause crushing of the timber or compromise the thread leading to anchor pull-out.

6) No substitution allowed - any variation from the details above and design tables will require specific design.

7) Fixings to timber must be re-tightened 2 months after installation and periodically thereafter to allow for timber shrinkage.

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**Timber Fixing Detail**

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<tr>
<td>MB50 / T / LS</td>
<td>R10</td>
<td>MB50 with lag screw</td>
<td>A, B, E, C3</td>
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</table>

**NOT SUITABLE FOR OCCUPANCY C1/C2, D OR C5**

Refer to DoubleDisc MB50 balustrade system design table for required glass thickness, fixing spacings and fixing loads according to AS/NZS 1170.1:2002 for the occupancies listed above. Refer to design tables and elevations for post-failure requirements. Interlinking rail / clips not shown for clarity. ‘H’ refers to top of barrier.

**NOTES:**

1) Capacity of structure is to be of sufficient strength to support loads $M^*$ and $T^*$ specified on Double Disc MB50 balustrade system design table. Structure capacity to be verified by building engineer where applicable or checked to NZS3604 requirements prior to fixing balustrade.

2) Timber decks designed to NZS 3604:2011 guidelines will meet loading requirement, except for decks including cantilever floor joists where specific design is required.

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7) Fixings to timber must be re-tightened 2 months after installation and periodically thereafter to allow for timber shrinkage.

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**Double Disc MB50 series** (refer page 2 for fitting options)

- M10x100 316 stainless steel lag screws (MFG# 301292) combined with Sika Supergrip 2 Hour polyurethane adhesive (MFG# 300006).
- MAX Ø6mm pilot hole into timber. MIN embedment 90mm.
- Timber boundary joints (min SG8 timber) with adequate fixing to structure for loads as specified on Double Disc MB50 balustrade system design table (refer note 2).
50MM DOUBLEDISC MB50 BALUSTRADE SYSTEM

Cladding / Fascia Installation Details

CLADDING / FASCIA PANEL DETAIL

**Double Disc MB50 series**

(refer EXPLODED VIEWS (page 2) for fitting options)

Cladding / facing material between boundary structure and MB50. Bearing strength of cladding / facing material must be no less than wet MSG8. Not suitable for brick/masonry cladding. Specifier to confirm with cladding supplier that cladding is appropriate for this use. Full even bearing to be provided to bracket and cladding.

STAINLESS STEEL: MIN 30, MAX 60
ALUMINIUM: 30mm ONLY

316 Stainless steel lag screws:

- MFG# 301292 - M10x100
- MFG# 301294 - M10x120
- MFG# 301296 - M10x170
- MFG# 301928 - M10x180

With Sika Supergrip 2 Hour polyurethane adhesive (MFG# 300006).

Refer to other installation drawings for typical steel, concrete and timber boundary structure details.

CLADDING / FASCIA PANEL DETAIL WITH CAVITY

**Double Disc MB50 series**

(refer EXPLODED VIEWS (page 2) for fitting options)

Packer between cladding / facing material & boundary structure. MAX 45mm thick, must extend 10mm minimum above top / below bottom of discs. 50mm horizontally both sides of disc. Bearing strength of packer must be no less than wet MSG8.

Refer to other installation drawings for typical steel, concrete and timber boundary structure details.

STAINLESS STEEL: MIN 30, MAX 60
ALUMINIUM: 30mm ONLY

Cladding / facing material between boundary structure and MB50. Bearing strength of cladding / facing material must be no less than wet MSG8. Not suitable for brick/masonry cladding. Specifier to confirm with cladding supplier that cladding is appropriate for this use. Full even bearing to be provided to bracket and cladding.