STRUT POST SP160B BALUSTRADE SYSTEM
Concrete Fixing Detail

Refer to SP160B 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*, V* and T* specified on StrutPost SP160B 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 StrutPost SP160B 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.
5) Substructure designer to ensure that there is no water runoff from dissimilar metals or treated timber onto barrier components.

NOT SUITABLE FOR OCCUPANCY C1/C2, D OR C5

Concrete building structure to be designed by building engineer to support loads as specified on SP160B balustrade system design table. Minimum 25MPa uncracked concrete, 150mm MIN thickness.

HILTI HIT-HY 200 + HIT-V-R M12
Grade 316 stainless steel anchor with 90mm embedment into uncracked concrete. Anchors to be installed in accordance with Hilti requirements. For anchors adjacent to corners, first anchor to be placed 90mm from edge of concrete.

NOTE: Not suitable for fixing to blockwork. Specific engineering design required.
STRUT POST SP160B BALUSTRADE SYSTEM
Steel Fixing Detail

Refer to SP160B 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 $M^*$, $V^*$ and $T^*$ specified on StrutPost SP160B 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 StrutPost SP160B 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.
6) Substructure designer to ensure that there is no water runoff from dissimilar metals or treated timber onto barrier components.
STRUT POST SP160B BALUSTRADE SYSTEM

Steel Fixing Detail

<table>
<thead>
<tr>
<th>Drawing No.</th>
<th>Revision</th>
<th>Fixing Type</th>
<th>Occupancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP160B / S (hollow) / BN</td>
<td>R6.1</td>
<td>SP160B with M12 bolt &amp; nut</td>
<td>A, B, E, C3</td>
</tr>
</tbody>
</table>

NOT SUITABLE FOR OCCUPANCY C1/C2, D OR C5

Refer to SP160B 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*, V* and T* specified on StrutPost SP160B 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 StrutPost SP160B 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.
6) Substructure designer to ensure that there is no water runoff from dissimilar metals or treated timber onto barrier components.

Balustrade Systems
www.metroglass.co.nz
Refer to SP160B 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 $M^*$, $V^*$ and $T^*$ specified on StrutPost SP160B balustrade system design table. Structure capacity to be verified by building engineer, or where applicable or checked to NZS3604 requirements prior to fixing balustrade.

2) Timber decks designed to NZS 3604.2011 guidelines will meet loading requirement. Additional blocking required for inner fixing.

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 StrutPost SP160B 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.

8) Substructure designer to ensure that there is no water runoff from dissimilar metals or treated timber onto barrier components.

Refer to SP160B 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.
STRUT POST SP160B BALUSTRADE SYSTEM
Concrete / Steel with Timber Decking

CONCRETE WITH TIMBER DECKING INSTALLATION DETAILS

NOTE: TIMBER DESIGN TABLE VALUES MUST BE USED NOT STEEL OR CONCRETE

STEEL WITH TIMBER DECKING INSTALLATION DETAILS

Concrete substrate capacity to be verified by building engineer prior to fixing.

Timber decking extends between balustrade hardware & substrate (Decking bearing strength no less than wet MSG8).

Steel substrate capacity to be verified by building engineer prior to fixing.

Timber decking extends between balustrade hardware & substrate (Decking bearing strength no less than wet MSG8).