TECHNICAL GUIDANCE NOTE

Bearing requirements - 20 November 2017

The effective bearing is the lesser of:

a) The actual bearing length
b) Half the bearing length + 100mm
c) 600mm

A = Bearing length
B = Bearing width

+ Net bearing width
+ Spalling allowance
+ Construction tolerances allowance
+ Manufacturing tolerances

Nominal bearing width =

Net bearing width =

Ultimate support reaction

Bearing length x ultimate bearing stress

Minimum net bearing width =

40mm for slabs (non-isolated members)
60mm for beams (isolated members)

The ultimate bearing stress is based on the weaker of the bearing surfaces

- Dry Bearing on concrete: $0.4 \times f_{wu}$
- Bedded bearing on concrete: $0.6 \times f_{wu}$
- Cast in steel bearing plate: $0.8 \times f_{wu}$
- Bearing on masonry: $0.36 \times f_{k}$

For masonry:
- $f_{k} = 3.5$ N/mm² (Crushing strength of 3.5 N/mm²)
- $f_{k} = 6.4$ N/mm² (Crushing strength of 7.0 N/mm²)
- $f_{k} = 8.2$ N/mm² (Crushing strength of 10 N/mm²)
TECHNICAL GUIDANCE NOTE

Bearing requirements - 20 November 2017

Allowances for spalling at support:

<table>
<thead>
<tr>
<th>Material</th>
<th>Allowance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel</td>
<td>0 mm</td>
</tr>
<tr>
<td>Concrete grade 30 or over</td>
<td>15 mm</td>
</tr>
<tr>
<td>Concrete below grade 30</td>
<td>25 mm</td>
</tr>
<tr>
<td>Brick/masonry</td>
<td>25 mm</td>
</tr>
<tr>
<td>RC &lt;300 mm deep at outer edge</td>
<td>Not less than cover to reinforcement at outer face of support</td>
</tr>
<tr>
<td>RC where vertical loop reinforcement &gt; 12 mm Ø</td>
<td>Cover plus radius of bend.</td>
</tr>
</tbody>
</table>

Allowances for construction tolerances:

<table>
<thead>
<tr>
<th>Length</th>
<th>Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>up to 3m length ± 6mm</td>
<td></td>
</tr>
<tr>
<td>up to 4.5m length ± 9mm</td>
<td></td>
</tr>
<tr>
<td>up to 6m length ± 12mm</td>
<td></td>
</tr>
<tr>
<td>additional deviation for every subsequent 6m ± 6mm</td>
<td></td>
</tr>
</tbody>
</table>

For masonry buildings over 4 storeys bedded bearing should be used.