The linear motion accuracy of the slide guide is almost equal to the accuracy of the rail that guides the linear motion block (slider). However, the accuracy of the rail is directly affected by the quality of the mounting surface on which it’s attached. For this reason, extremely accurate straightness and parallelism of the mounting face are prerequisites for the accuracy of the linear guides. This section explains the design of the slide guide’s mounting surface (for mounting a rail and for mounting a block).

(1) The Specifications of the mounting surfaces (See [Fig. 1].)

To accurately align and fix a rail or block on a mounting face, provide a relief at the corner of the mating mounting surfaces or add a corner radius that is smaller than C-chamfer of the mating rail or block. See Table 1 for recommended corner radii and shoulder heights of the mounting surfaces. (see [Table 1]).

![Mounting face height and corner shape](image)

**Table 1**  Shoulder heights and corner radii of mounting faces

<table>
<thead>
<tr>
<th>Reference outside dimensions (overall height x block width x block length)</th>
<th>Corner radius (rail) r1 (maximum)</th>
<th>Rail radius (block) r2 (maximum)</th>
<th>Shoulder height (rail) H1</th>
<th>Shoulder height (block) H2</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 x 60 x 55 (SSEBT type)</td>
<td>0.4</td>
<td>0.4</td>
<td>2.5</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>42 x 90 x 67 (SVRZ type)</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>6</td>
<td>9</td>
</tr>
</tbody>
</table>

Note: C-chamfer of Misumi slide guides is from 0.3mm to 1.0mm (0.3mm to 0.5mm for the Miniature Slide Guides and 0.5mm to 1.0mm for the Medium and Heavy Load Slide Guides)

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**Back number**

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(2) Mounting accuracy

To ensure parallelism between two rails, position and fasten first rail (fixed rail) to the base, then temporary fasten the second rail [Fig.1]. Fasten the blocks on the fixed rail to the table. Temporary fasten the blocks on the second rail. Make sure that blocks are moving smoothly, correct the positioning if needed and then fully tighten all mounting bolts. [Fig. 2] shows the structure which has two mounting surfaces on the plate.

1) Error in axis parallelism (See [Fig. 2].)

2) Error in axis reference plane (See [Fig. 3].)

3) Error in axis reference plane (See [Fig. 4].)

As described above, the accuracy of the slide guide deteriorates according to the accuracy of the mounting face. However, the deterioration in actual accuracy can be reduced to 1/2 to 1/10 through the effect of averaging by many circulation balls.