



**S-BT  
VISUAL INSPECTION  
CATALOGUE**

## HILTI S-BT VISUAL INSPECTION CATALOGUE

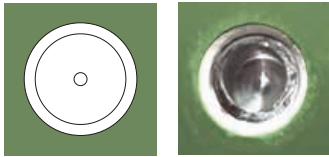
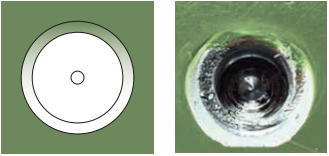
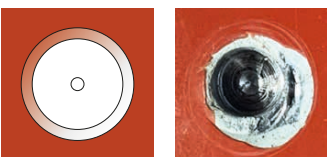
The visual inspection and assessment for Hilti S-BT studs is split in two parts.

First, the examination of the drilling operation (Table 1, 2 and 3) before the setting process.





Second, the examination for the S-BT stud setting itself (Table 4, 5, 6 and 7).

The purpose of the examination catalogue is to help the user assess visually and decide whether each instillation step is acceptable or not acceptable for use. The Hilti S-BT examination catalogue should be used during the whole stud instillation process.

**Table 1: Surface preparation of coated parent material – drilling the pilot hole**

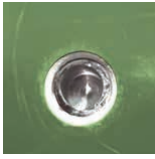


No.	Schematics	Example images	Assessment	Recommended corrective action
1	<b>Shiny ring: 100%</b> 		✓ Correct drilling angle and depth.	
2	<b>Shiny ring: &gt;50%</b> 		✓ Acceptable drilling angle and depth.	
3	<b>Shiny ring: &lt;50%</b> 		✗ Drilling is either too inclined or not deep enough.	Finish drilling till the shiny ring reaches >50% but do not wobble the tool during drilling. The drill must stay perpendicular to surface.

**Table 2: Surface preparation of uncoated parent material – drilling the pilot hole**

No.	Schematics	Example images	Assessment	Recommended corrective action
1	<b>Shiny ring: 100%</b> 		✓ Correct drilling angle and depth.	
2	<b>Shiny ring: &gt;50%</b> 		✓ Acceptable drilling angle and depth.	
3	<b>Shiny ring: &lt;50%</b> 		✗ Drilling is either too inclined or not deep enough.	Finish drilling till the shiny ring reaches >50% but do not wobble the tool during drilling. The drill must stay perpendicular to surface.
4	<b>Shiny ring: 0%</b> 		✗ Drilling is either too inclined or not deep enough.	Finish drilling till the shiny ring reaches >50% but do not wobble the tool during drilling. The drill must stay perpendicular to surface.

✓ OK ✗ Not OK

**Table 3: Cleanliness of pilot hole**

No.	Example images	Assessment	Recommended corrective action
1	<p style="text-align: center;"><b>Clean</b></p> 	<p>✓</p> <p>All drilling chips has been removed from the surface.</p>	
2	<p style="text-align: center;"><b>Not cleaned</b></p> 	<p>✗</p> <p>Operator did not clean the drilling area.</p>	Remove drilling chips from pilot hole and proximity.
3	<p style="text-align: center;"><b>Water contamination</b></p> 	<p>✗</p> <p>Installation under wet conditions.</p>	Remove water and keep pilot hole dry before installing S-BT.

**Table 4: Setting at the correct depth – Visual inspection**

No.	Example images	Assessment	Recommended corrective action
1	<p style="text-align: center;"><b>Underset – Stainless stud</b></p> 	<p>✗</p> <p>Operator stoped setting before SBT 6 finished the setting.</p>	Trigger again the SBT 6- in BT mode and gear 1 to finish the setting. The tool will automatically detect that the stud is underset and only do ¼ turn to complete the setting.
2	<p style="text-align: center;"><b>Correctly Set – Stainless stud</b></p> 	<p>✓</p> <p>Stud has been set to the correct depth.</p>	Remove drilling chips from pilot hole and proximity.
3	<p style="text-align: center;"><b>Overset – Stainless stud</b></p> 	<p>✗</p> <p>Operator applied too much pushing force during the setting operation or operator did not use BT mode.</p>	The fastening point cannot be used.
4	<p style="text-align: center;"><b>Underset – Carbon stud</b></p> 	<p>✗</p> <p>Operator stoped setting before SBT 6 finished the setting.</p>	Trigger again the SBT 6- in BT mode and gear 1 to finish the setting. The tool will automatically detect that the stud is underset and only do ¼ turn to complete the setting.
5	<p style="text-align: center;"><b>Correctly Set – Carbon stud</b></p> 	<p>✓</p> <p>Stud has been set to the correct depth.</p>	Remove drilling chips from pilot hole and proximity.
6	<p style="text-align: center;"><b>Overset – Carbon stud</b></p> 	<p>✗</p> <p>Operator applied too much pushing force during the setting operation or operator did not use BT mode.</p>	The fastening point cannot be used.

✓ OK ✗ Not OK

**Table 5: Setting at the correct depth – Inspection card (Schematic explanation)**

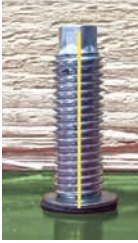


Inspection card	Description	Assessment	
	<p>Using the Inspection card for checking the correct setting of the stud is not required for every stud. Under most circumstances the visual inspection highlighted above is sufficient. However, in case of uncertainty we offer the possibility to check the setting of the stud with the Inspection card. Below you find a detailed description.</p> <p><b>Example Scenario</b> The X shows the thickness of the coating. Depending on which coating you use will determine which X value you are reading from.</p>	Coating: 0 mm ✓	Coating: 0.5 mm ✗
		<p>The coating is 0mm, therefore we need to check if the card shows green with the X is 0 in the coating.</p>	<p>When the coating is 0.5mm, we would need to check the window where the X is 0.5mm shows orange.</p>

**Table 6: Setting at the correct depth – Inspection card (Example scenarios)**

No.	Example scenario	Assessment		Recommended corrective action
1		Coating: 0 mm ✗	Coating: 0.5 mm ✗	Double check inspection card IFU otherwise the fastening point cannot be used.
		Either the inspection card is incorrectly used or the stud is either underset or overset.		
2		Coating: 0 mm ✗	Coating: 0.5 mm ✗	Trigger again the SBT 6 in BT mode and gear 1 to finish the setting. The tool will automatically detect that the stud is underset and do ¼ turn to complete the setting.
		Underset – operator stopped setting before SBT 6 finished the setting.		
3		Coating: 0 mm ✓	Coating: 0.5 mm ✗	Depending on coating thickness refer to the corresponding colour example.
		If the coating is > 0.4 mm the stud is underset. Else correct setting.		
4		Coating: 0 mm ✓	Coating: 0.5 mm ✓	The correct setting has been completed within in the correct tolerance.
5		Coating: 0 mm ✗	Coating: 0.5 mm ✓	Depending on coating thickness refer to the corresponding colour example.
		If the coating is < 0.4 mm the stud is overset. Else correct setting.		
6		Coating: 0 mm ✗	Coating: 0.5 mm ✗	Depending on coating thickness refer to the corresponding colour example.
		If the coating is < 0.9 mm the stud is overset. Else correct setting.		
7		Coating: 0 mm ✗	Coating: 0.5 mm ✗	The fastening point cannot be used.
		Overset – Operator applied too much pushing force during the setting operation, or the operator did not use BT mode.		

✓ OK ✗ Not OK

**Table 7: Setting the stud at the correct angle**

No.	Example images	Assessment	Recommended corrective action
1	<p data-bbox="507 333 724 360">0° to the perpendicular</p> 	<p data-bbox="796 336 815 362">✓</p> <p data-bbox="796 369 1046 396">Perfect stability when setting.</p>	
2	<p data-bbox="507 622 724 649">≤ 5° to the perpendicular</p> 	<p data-bbox="796 624 815 651">✓</p> <p data-bbox="796 658 1110 730">Acceptable level of misalignment in positioning or minimal loss of control during setting.</p>	
3	<p data-bbox="507 936 724 963">&gt; 5° to the perpendicular</p> 	<p data-bbox="796 938 815 965">✗</p> <p data-bbox="796 972 1099 1072">Unacceptable loss of control during setting. Also, can be misalignment while positioning the stud.</p>	<p data-bbox="1142 972 1449 999">The fastening point cannot be used.</p>



Hilti Aktiengesellschaft  
9494 Schaan, Liechtenstein  
P +423-234 2965

[www.facebook.com/hiltigroup](https://www.facebook.com/hiltigroup)  
[www.hilti.group](https://www.hilti.group)