



1. Correct positioning control of welded flat metal tubes

The position of a welding line on a flat tube should be controlled. At this, the welding line should be underneath. For this purpose, a color sensor type **SPECTRO-3-FIO-JR** in connection with an optical fiber type **R-S-R2.1-(6x1)-1200-67°** and an optical frontend type **KL-M34-XL-R2.1** is used. At this, the distance from the optical frontend to the object is around 80mm, the spot size at this distance is roughly 7mm x 1.5mm and the angle to the vertical axis is approximately 45°. The presence of the welding line can be proper detected as shown in the screenshots.

