

## WSR (Weld Spatter Resistant)

### What is WSR?

WSR is a coating that is resistant to weld spatter and has been specially tested for the requirements in a weld spatter environment. It is also highly wear resistant and therefore has a long life cycle. The AlCrN-coating can be applied to a pure steel pin:

- Extreme hardness,
- Abrasion resistance,
- Low coefficient of friction,
- Anthracite colored
- Chemical resistance,
- Weld spatter resistant
- Coated on steel pin = full steel pin advantages

Properties	AlCrN
Color	Anthracite
Hardness (HV)	~ 3,200
Thickness [µm]	0.2 - 1.0
Coefficient of friction against steel, dry	0.15 - 2
Surface roughness Rz [µm]	< 1
Use with	e.g. welding of steel sheets, positioning of steel sheets

### Coating process

The AlCrN layer is coated by PVD (engl. Physical Vapor Deposition; Physical vapor deposition for example by evaporation or sputtering) at the locating pin.

### Test results:

Installation location: Body shell construction (Body in white) / welding area

Cycles: in use since September 2018, outstanding test results

Workpiece material: Steel

Locating pin material: EN 1.2379

### AlCrN (WSR)



### Current experiences

- Test running since September 2018
- No wear and tear recognizable
- Prevented welding spatter adhesion / welding spatter can be removed with a simple cloth
- No coating damage
- Due to full steel pin, great advantage over previous ceramic pins (no breaking, no detachment of the ceramic sleeve, no internal steel core, longer running time)
- Increased process reliability