

## Capacitor discharge welding

In capacitor discharge stud welding, the welded side of the stud has a specific ignition tip. The arc is ignited on this point. The ignition tip melts explosively, emits a bang and vaporises minimally. The induction current created by opening the circuit ignites an arc, which then targets the whole stud face. The rapid, strong build-up of heat generates a small weld pool on the surface, which is strong enough to permanently join the workpiece with the welding stud. Due to the shallow burn-in depth as a result of the short weld time, it is then possible to attach studs to relatively thin materials (0.7 to 3 mm).

A differentiation is made between the following two methods in capacitor discharge welding:

- Capacitor discharge welding with gap (gap welding)
- Capacitor discharge welding with contact (contact welding)

Applicable documents:

- DIN EN ISO 14555 - Arc stud welding of metallic materials
- DIN EN ISO 13918 - Studs and ceramic ferrules for arc stud welding
- DVS 0901 information sheet - Arc stud welding
- DVS 0903 information sheet - Arc stud welding with capacitor discharge
- DVS 0904 information sheet - Arc stud welding, practical instructions