Bonding adhesive onto a steel washer for an automotive application

**Objective**
To heat a steel washer to the targeted temperature to enable adhesive curing; it will be part of an automated process for an automotive industry application

**Material**
- Steel washer and screw
- Gasket material

**Temperature**
200 ºF (93 ºC)

**Frequency**
315 kHz

**Equipment**
- Ambrell EASYHEAT™ 2 kW, 150-400 kHz induction heating system equipped with a remote workhead
- A single position, one-turn helical induction heating coil designed and developed specifically for this application

**Process**
The part was suspended over the helical coil by approximately 0.125” (3.2 mm). The power was turned on for 1.5 seconds. The part was pressed through the gasket material and against a hard surface, which completed the process. At this point, it was observed that the entire surface of the gasket material was shiny, which indicated a liquid/plastic state.

**Results/Benefits**
- Speed: With a 2 kW EASYHEAT, heating took less than two seconds
- Footprint: Induction can easily be integrated into the client’s manufacturing process due to the EASYHEAT and its workhead’s modest space requirements, which is ideal given that this will be used in an automated process
- Repeatability: Induction is a highly repeatable process, so the client can expect the same result every time in their high-volume manufacturing process
The coil and part during heating.

The part after heated had concluded.