

## ***ArmaKleen Technical Service Report Summary***

**Cleaning Trial Type:** Aqueous

**Industry:** Manufacturing

**Segment:** 26 Fabricated Metal Products

**Soil:** Oil, cutting fluids and steel metal chips

**Substrate:** Steel

**Description of Part(s):** Steel nozzles

**Customer objective:** The customer is looking to improve their cleaning performance, automate their cleaning process and reduce rework and reject rate. The customer was asking for a two step process.

**Cleaner used:** 5% by volume ArmaKleen™ 4 in 1 Cleaner

**Machine used:** Ultrasonic Washer (SK 6315 Blackstone Model 3523) followed by an Agitating Immersion Washer (81.8)

**Temperature used:** 160°F

**Time required:**

1. Ultrasonic Washer 10 minutes, Agitated Immersion Washer 5 minutes
2. Ultrasonic Washer 8 minutes, Agitated Immersion Washer 7 minutes
3. Ultrasonic Washer 5 minutes, Agitated Immersion Washer 5 minutes

**Post Cleaning:** Fresh water rinse followed by air pressure drying.

**Recommendation to Customer:** The ArmaKleen Technical Center recommended using 5% by volume ArmaKleen™ 4 in 1 Cleaner in an Ultrasonic Washer followed by using 5% by volume ArmaKleen™ 4 in 1 Cleaner in an Agitated Immersion Washer both at 160°F for a total cleaning time of 10 – 15 minutes minimum.

**Before Picture**



**Source:** TSR #12-A-252

**After Picture**

