

# ULTRATECNO

ULTRASONIC CLEANING APPLICATIONS

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# Ultrasonic cleaning Applications

Benefits of ultrasounds can be introduced in many sectors:

- **Engine parts maintenance: - Automotive & truck**
- **Large Marine Engines – Railway**
- **Aircraft and Power generation**
- **Paint or rust removal, & surface pre-treatment for new coating**
- **Heavy Duty cleaning at Oil & Gas**
- **Machining oil degreasing and chip removal**
- **Heat Exchangers & Filters inner cleaning**
- **Mills saw blades cleaning (burnt resin)**
- **Mining industry**
- **Parts cleaning, rinsing & drying for manufacturing industry (custom multistage systems with automation or not)**
- **Injection, Extrusion or Thermoforming Molds Maintenance**
- **Printing Cylinder**

# NEW ULTRASONIC CLEANING APPLICATIONS

Removal of Zircalloy chips in combustion  
sets for Nuclear Reactors



# Zircalloy Chips Removal (1)

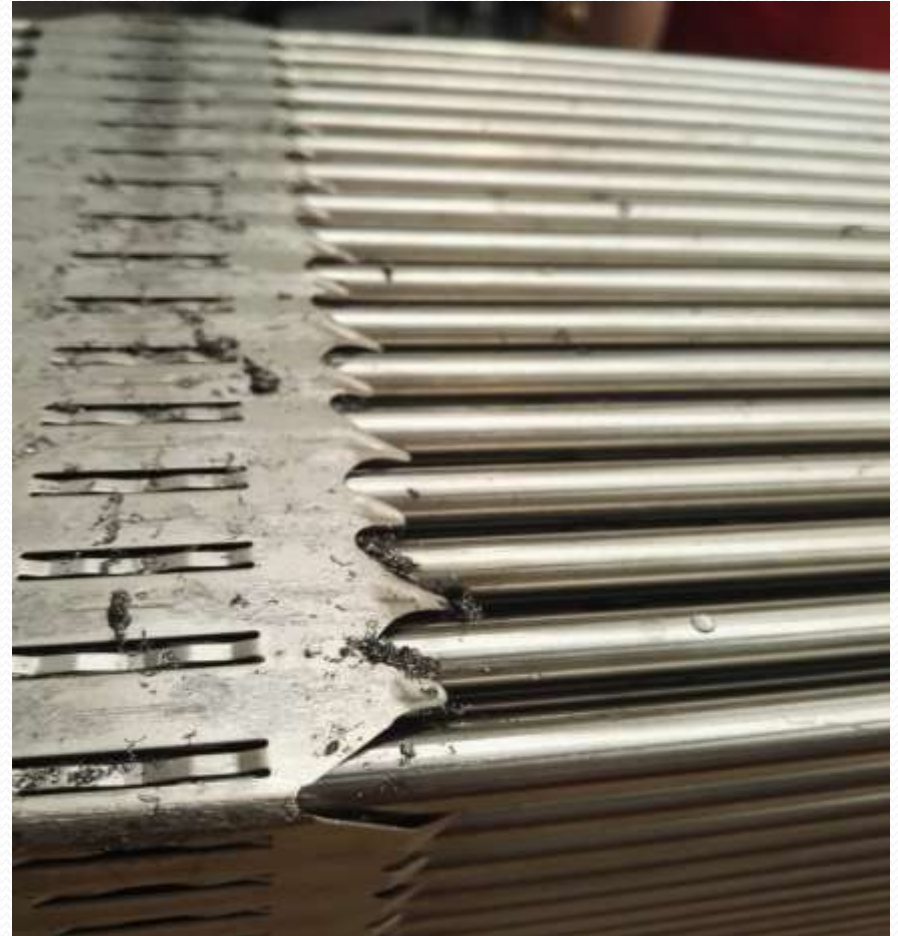
- **Customer:** Public spanish corporation (tender)
- **Activity:** Research, Development and Fabrication of innovative nuclear solutions . They supplies enriched uranium to the electricity companies with nuclear power plants.
- **Cleaning purpose:** removal of Zircalloy Chips from his manufactured combustion sets.

# Zircalloy Chips Removal (2)

- **Process:** They needed cleaning of combustion sets they produced. After manufacturing, some grease and zircalloy chips remain on the surface of these sets. These particles have to be removed in their own subterranean pit which houses an existing inox steel tank. After some different processes, these uranium sets would go to nuclear plants directly to reactor. The inox tanks are used exclusively for the cleaning of these sets and under customer's request, we should not use chemicals but only deionized water. Performance was brilliant!
- In the past, for this purpose they only used a kind of bubbling system inside these tanks, but after our cleaning tests, Ultrasounds Technology appears as the best and most effective alternative technology for this cleaning purposes.



# Zircaloy Chips Removal (3) Before



# Zircaloy Chips Removal (4) After



# Zircalloy Chips Removal (5)

## CLEANING TEST PARAMETERS

- . Temperature. 80°
- . No detergents/chemicals
- . Cleaning time: 15 minutes
- . Deionized water



# Zircalloy Chips Removal (6)

- FINAL INSTALLATION
- One stainless steel frame which supports 5 Immersable Ultrasounds Plates (2 Kw/each) with special dimensions 240 x 900 x 80 mm
- Ultrasounds generator (10Kw)

# Zircaloy Chips Removal (7)



# Zircaloy Chips Removal (8)



Thank you