Debonding rubber coating from a steel casted water valve for recycling/refurbishing

Objective
Heat a steel, rubber-coated water valve to 500 °F (260 °C) and debond the rubber coating.

Material
Steel water valve 6” (152.4mm) diameter with rubber coating

Temperature
500 °F (260 °C)

Frequency
80 kHz

Equipment
- Ambrell 15 kW induction heating system, equipped with a remote workhead containing four 0.5 µF capacitors for a total of 0.5 µF
- An induction heating coil designed and developed specifically for this application.

Process
A four turn helical coil is used for debonding the rubber coating from the water valve. Power is applied for 2 minutes to heat the water valve slowly to 500 °F (260 °C) so the metal casting is not damaged. The part is removed from the coil and the rubber coating is easily removed.

Results/Benefits
Induction heating provides:
- Minimal, if any, damage to parts
- Process is more environmentally-friendly without use of noxious chemicals
- Even distribution of heating
Water valve in coil

Rubber coating is easily removed from water valve

Water valve after rubber coating is removed