Forming Stainless Steel Heads
Burning
Welding
Real Time X-Ray
Pressing
Flanging
“Tru-Edge”
Machined Bevel
Why Do We Polish Heads?

- Appearance
  - Cosmetic
- Performance
  - Surface Slip
  - Surface Release Properties
- Product
  - Easy Clean
  - Sanitary
- Plant
  - Corrosion
    - Pitting Corrosion
    - Crevice Corrosion
- Snag Free
Different Types of Stainless Steel Finishes

• No.0 - Hot rolled, annealed, thicker plates
• No.1 - Hot rolled, annealed and passivated
• No.2D - Cold rolled, annealed, pickled and passivated
• No.2B - Same as above with additional pass-through highly polished rollers
• No.2BA - Bright annealed (BA or 2R) same as above then Bright annealed under Oxygen-free atmospheric conditions
• No.3 - Coarse abrasive finish applied mechanically
• No.4 - Brushed finish
• No.5 - Satin finish
• No.6 - Matte finish
• No.7 - Reflective finish
• No.8 - Mirror finish
• No.9 - Bead blast finish
• No.10 - Heat colored finish - wide range of electro-polished and heat colored surfaces
Polishing
Polishing
Ferros Blatter Polisher
480” DIA x 10 Ga FOR ANHEUSER BUSCH
Why Do We Solution Anneal Heads?

- During head forming, the austenitic material is plastically deformed, or cold worked.
- Due to cold working, the material’s hardness and tensile strength are increased, while its ductility and toughness are reduced.
- The strengthening occurs because of dislocation movements and dislocation generation within the crystal structure.
- Solution annealing allows for recrystallization of the work hardened grains and restores the austenitic material to its original condition.
- This increases the material’s toughness and ductility making it suitable for pressure vessel fabrication.
Heat Treating
Heat Treating
Why Do We Pickle Heads?

• The corrosion resistance of stainless steel is a result of the natural formation of a passive chrome rich oxide film.

• During fabrication and forming operations, the passive layer, or film, may become damaged or compromised.

• Pickling is a chemical treatment which removes free iron contaminants and chrome depleted oxides and assists in restoring the chromium rich passive layer.

• Because pickling is an acid treatment only, it will not remove grease or oil. Therefore, an alkaline cleaner is used prior to pickling to remove any dirt, oil, grease, or other contaminants from the steel surface caused by the fabrication and forming process.
Pickling – 25’ Heated Nitric Acid Tank
Heat Transfer – Half Pipe
Heat Transfer – Half Pipe
Heat Transfer – Dimple Jacket