NISTM ~ Ohio Storage Tank Conference

Storage Tank Welding
Modern Welding Company

Welding Fabricator since 1932
- Storage Tanks
- Pressure Vessels
- Structural Steel

Presented by:
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Welding Processes

- SMAW ~ Shielded Metal Arc Welding
- GMAW ~ Gas Metal Arc Welding
- FCAW-G ~ Flux Cored Arc Welding – Gas Shield
- SAW ~ Submerged Arc Welding – Machine
- Filler Metal Tensile Strength Matches Base Metal Tensile Strength
SMAW Shielded Metal Arc Welding

- Welder Friendly
- All Positions
- Portable
- Least cost efficient
- Frequent stops
GMAW-S  Gas Metal Arc Welding ~ Short-Circuiting

- High Deposition Rate
- All Positions
- Continuous Welding
- Low Penetration
FCAW-G Flux Corded Arc Welding ~ Gas Shielding

- Slag Supports Weld Bead
- All Positions
- Continuous Welding
- Good Penetration
SAW Submerged Arc Welding

- Machine Welding
- Cost Efficient
- High Quality
- Flat Position Only
Machine Welding

- Joggle Joint
- Welding With Backing
- CP One Side
Properties of a Welded Joint

- Full Penetration
- Complete Fusion
- Filler Metal Compatibility
- Position of Electrode
Welding Process Productivity Manual and Semi-Automatic
The WPS should list all Technical Requirements

- Nozzle Placement
- Position
- Filler Metal
- Base Metal
- Volts & Amps
- Temperature
- Gas ~ if required
- Flux ~ if required
- Electrical Characteristics

- Electrode Direction
Welding Procedure Qualification


- Standard Welding Procedures
- Pre-Qualified Welding Procedures
- Qualified WPS to B2.1
AWS D1.1
“Structural Welding Code”

- AWS Pre-qualified Welding Procedure Specification in D1.1.
- American Welding Society