

History & Trends



Wayne Geyer
April 2008

Who and what is STI/SPFA?

- **STI formed in 1916**
- **SPFA formed in 1933 (See History)**
- **STI & SPFA merged in 2004**



Who are Members of STI/SPFA?

- **Association of 115 fabricators of steel construction products & 61 affiliates:**
 - Shop-fabricated tanks
 - Field erect tanks
 - Pipe
 - Pressure vessels
 - Other special fabricated products
- **STI members account for nearly all total shop-fabricated underground steel storage tank capacity production in North America**



STI History

April 21 - 22, 2008

What does STI do?

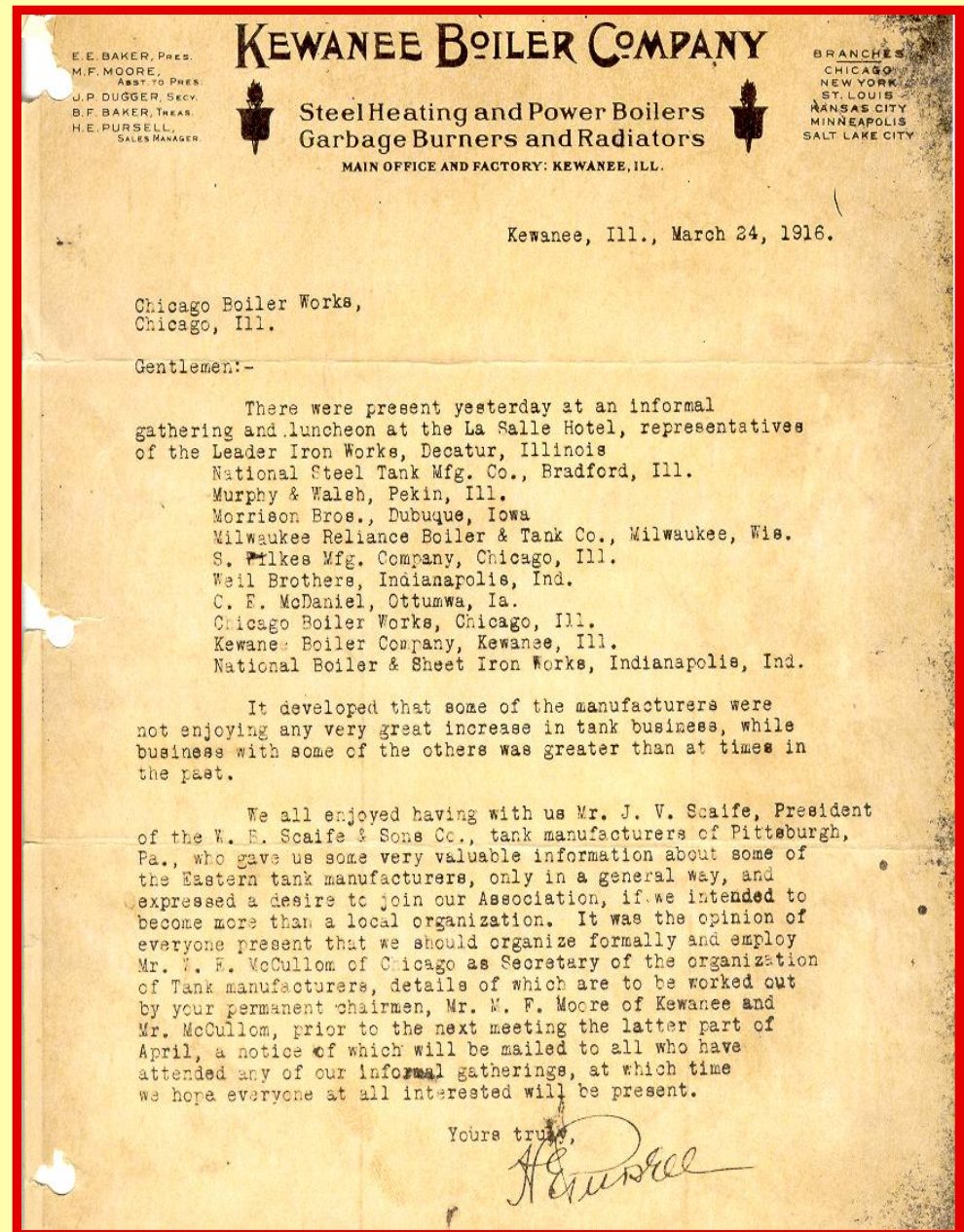
STI develops and serves as:

- Tank technologies
- Industry standards & recommended practices
- Licenses manufacturers to build tanks to STI specifications
- Quality control
- Information resource



USA History

- 1859 Oil Found**
- 1904 NBFU 30**
Rules for Petro
- 1916 STI**
- 1919 API**
- 1922 UL 142**
- 1925 UL 58**
- 1969 sti-P3**
- 1989 UL 1746**



1956

Standardized Tank Fitting Location

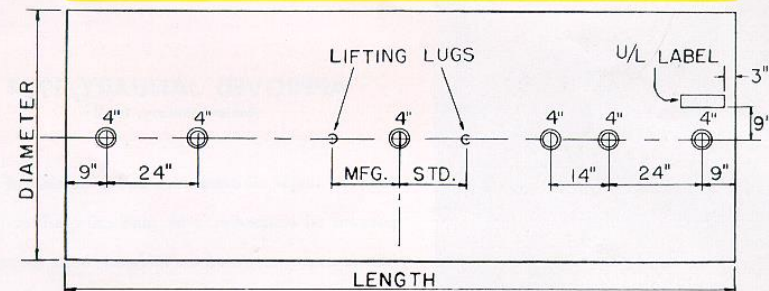
MIDWEST 56 STANDARD FOR UNDERGROUND GASOLINE TANKS CAPACITIES — SIZES — GAGES — OPENINGS — WEIGHTS

Data on Black Steel Underground Tanks

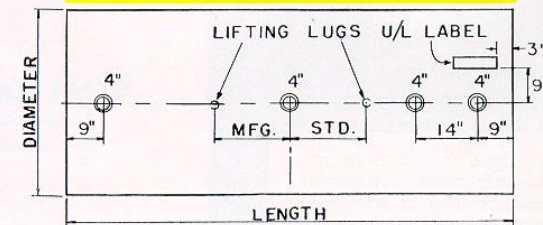
CAPACITY GALLONS	U.S.S. GAGE	APPROX. THICKNESS	DIAMETER	LENGTH	WEIGHT EST.
560	12	7/64"	4'-0"	6'-0"	480
1000	10	9/64"	4'-0"	11'-0"	968
1000	10	9/64"	5'-4"	6'-0"	875
560	7	3/16"	4'-0"	6'-0"	828
1000	7	3/16"	4'-0"	11'-0"	1325
1000	7	3/16"	5'-4"	6'-0"	1180
2000	7	3/16"	5'-4"	12'-0"	1980
3000	7	3/16"	5'-4"	18'-0"	2765
3000	7	3/16"	6'-0"	14'-0"	2565

CAPACITY GALLONS	U.S.S. GAGE	APPROX. THICKNESS	DIAMETER	LENGTH	WEIGHT EST.
4000	7	3/16"	5'-4"	24'-0"	3560
4000	7	3/16"	6'-0"	19'-0"	3310
4000	7	3/16"	7'-0"	14'-0"	3150
5000	3	1/4"	6'-0"	24'-0"	5400
6000	3	1/4"	6'-0"	29'-0"	6380
6000	3	1/4"	8'-0"	16'-0"	5370
8000	3	1/4"	8'-0"	21'-0"	6685
10000	3	1/4"	8'-0"	27'-0"	8260
10000	3	1/4"	10'-0"	17'-0"	7340

2000 GALLON CAPACITY AND LARGER



UNDER 2000 GALLON CAPACITY



NOTES

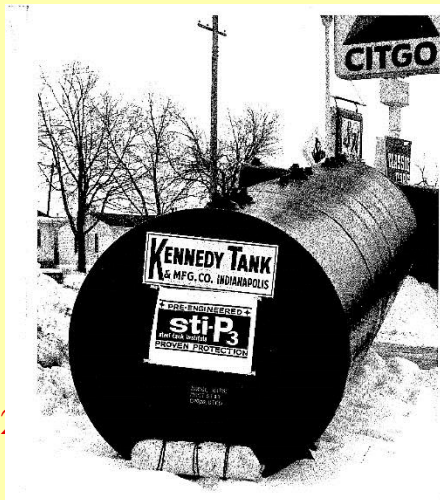
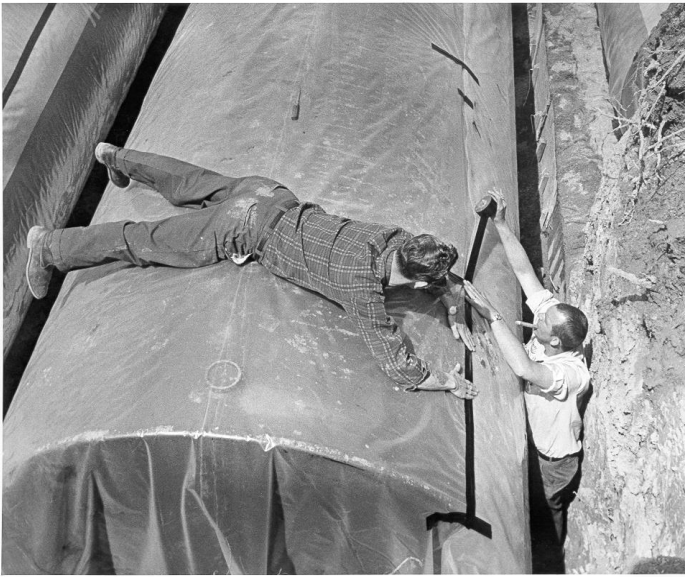
1. TANKS SHALL BE MADE TO THE INSIDE DIMENSIONS SHOWN IN TABLE.
2. TANKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH UNDERWRITERS LABORATORIES, INC. STANDARDS FOR UNDERGROUND STORAGE TANKS, SUBJECT 58, LATEST REVISION, UNDERWRITERS LABEL APPLIED IN POSITION SHOWN.
3. OPENING SIZES AND SPACING AS SHOWN ARE STANDARD; OTHER SIZES OR SPACING WILL BE CONSIDERED AS SPECIAL.
4. PAINT; ONE SHOP COAT.
5. ALL OPENINGS SHALL BE COVERED WITH METAL CAP TO PREVENT ENTRANCE OF DIRT AND MOISTURE DURING SHIPMENT.

MIDWEST 56 STANDARD FOR UNDERGROUND GASOLINE TANKS

STEEL TANK INSTITUTE
120 So. LaSalle Street
Chicago 3, Illinois

APPROVED
January, 1954
(Revised January, 1956)

1960's: Search for Corrosion Control



April 1

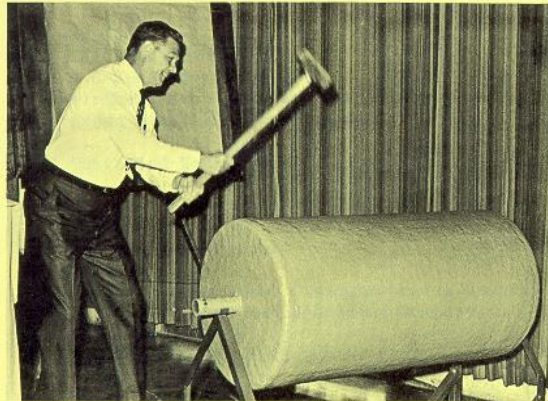
FRP Coatings



STEEL TANK INSTITUTE

THE NATIONAL ORGANIZATION SERVING THE TANK INDUSTRY

..... MINUTES



Robert Mason, Chairman S.T.I. Promotion Committee versus Sti*life steel tank. Sti*life is the WINNER.

SEMI-ANNUAL MEETING

June 19-20-21, 1968

THE LODGE *of* 
THE FOUR SEASONS
LAKE OZARK, MISSOURI



1979

CP Test Stations

1981

Urethane Coatings

1983

Zinc Weld-on Anode

1986

FRP Coatings



Early 1980s: **Type II Double Wall UST's**
 1984: **STI Dual Wall Tank Std. (Type I)**
Late 1980s: **Non-metallic Containment**



Critical Period: 1985 - 1989

- **EPA interim prohibition in 1984**
- **Change from 20- to 30-year warranty**
- **Include internal corrosion**
- **STA formed**
- **Watchdog Program started**
- **STICO formed**
- **Quality Control Program & Audits begun**



1987

**Composite Steel Tank
(a.k.a. FRP Clad)**

1990

**STI takes over
ACT-100 tank program**

**Association of
Composite Tanks
(ACT) merges with STI**



1991

FRP Jacketed Steel Tanks



1992 - 1995



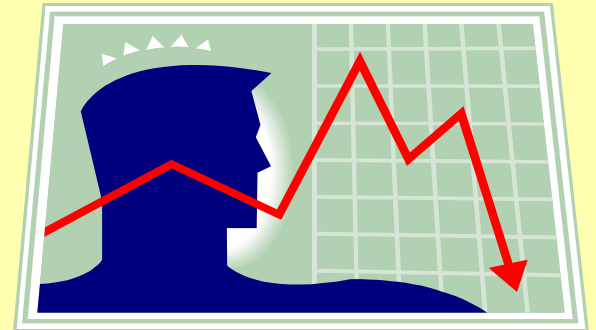
- **Codes allow ASTs for fueling**
- **EPA accepts secondary contained ASTs in lieu of diking**
- **F921, Fireguard[®] technologies created**
- **Patent infringement case**

AST Technologies



1997 - 2000

- **EPA UST deadline in 1998**
- **Tank UST registrations begin steady decline**
- **STAC merges with STI**
- **Economy declines after 2000**



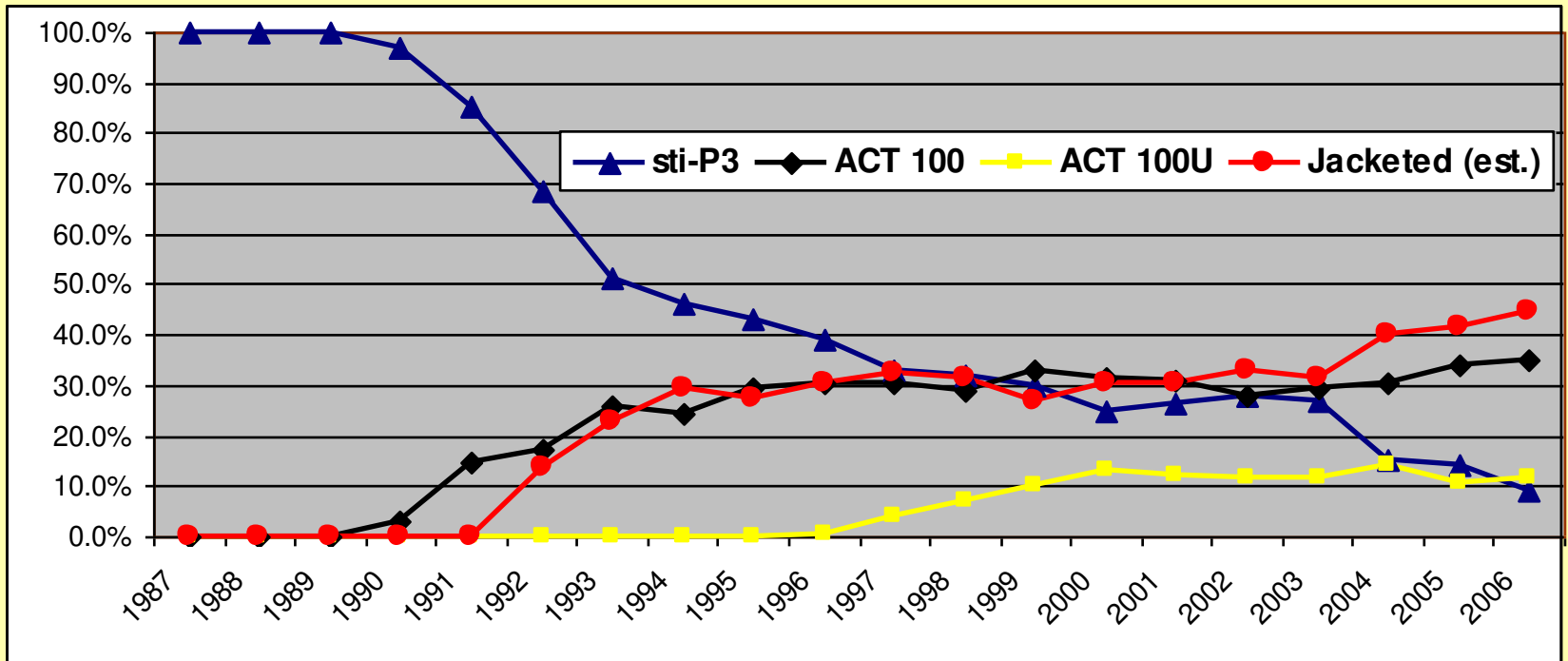
2000 - 2005

- Tanks get **MUCH** bigger
- **MORE** tanks get secondary containment
- Tanks get compartmentalized



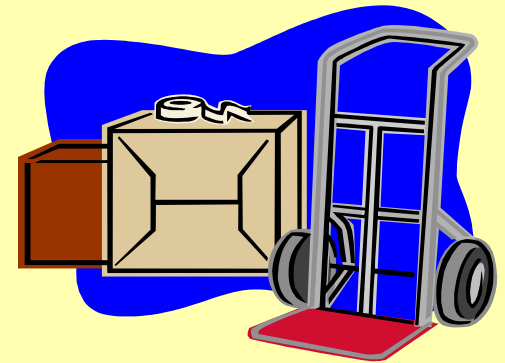
Steel UST Technology Trends

Installed STI-labeled USTs exceed 2 billion gallons



SPFA Merges with STI

- **Merger becomes official in 2004**
- **By-Laws rewritten**
- **New Board established**
- **Cincinnati office closed**
- **No personnel accept transfer**



SPFA Culture

- **Four distinct sections: Pipe, Field Erect Tank, Safety & Health, and Pressure Vessel**
- **Closer ties to steel mills: Affiliate & AISI**
- **More educational functions: PV Conferences, Water Tank Seminars, Safety Programs**
- **Pipe Audit Program**
- **Publications resulted from joint efforts with AISI**

