

Tower

Metalworking Fluids



YEARS **87** STRONG!



1933

Al Simon started the company as “Tower Oil” selling **motor oils** to local delivery & trucking companies

1970’s

Tower’s product diversification included **65% lube oils and 35% metalworking lubricants**

2014

Tower’s new technology shifted its diversification to **95% metalworking fluids and 5% lube oils**

2017

To highlight Tower’s on-going technology advancements into water-based products over straight oils, ***Tower begins doing business as Tower Metalworking Fluids***

2019

Completed increased storage capacity by adding (4) 1,200-gallon poly storage tanks



1940’s-1950’s

Expanded the business into industrial accounts- **Primarily machine lubes & hydraulic fluids.** These were “application specific” formulated metalworking fluids

1994

Tower becomes an Employee Owned Company

ESOP

2016

Tower **increases manufacturing and storage capacity** by adding (2) blending tanks and (3) storage tanks to its current equipment list

2018

Increased blending capabilities by incorporating a 28ga. Stainless Steel blending tank.

2020

Developed a complete “Value-Line” of Saf-T-Cool product line to complement our premium line of semi-synthetics

- ▶ Provided Technical expertise since WW II – both with machine lubrication and production oils: *screw machines, milling, drilling, etc.*
- ▶ By the early 1960’s, Tower earned Industry respect for our metalworking lubes expertise in drawing and stamping products

Product Lines

Metal Removal-Cutting & Grinding

Used in applications such as
Turning, Milling, Drilling,
Tapping, Grinding, etc.



Corrosion Protection

In-Process, Short-Term,
and Long-Term



Metallforming Lubricants

Used for Drawing, Stamping,
Fine blanking, Roll Forming,
Tube Forming, Wire Drawing, etc.



Machine Lubricants

For general maintenance of
machines and equipment

Specialty Products

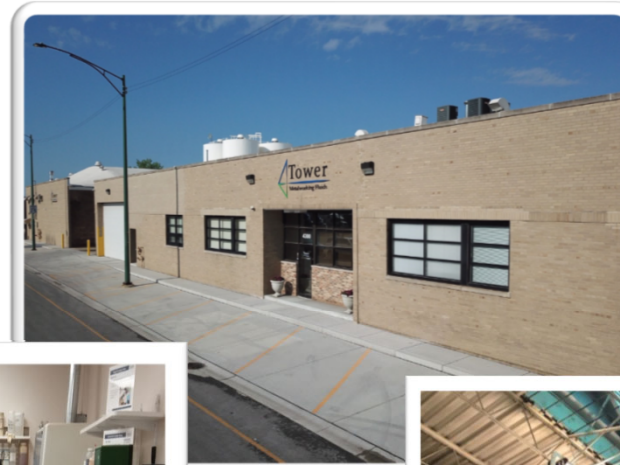
For Tube Bending,
Pre-Treatment Chemicals,
Synthetic Oils, etc.



Operations

50,000 sq. ft. facility located near Midway Airport in Chicago, Illinois USA

On-Site R&D Laboratories, Manufacturing, Quality, Engineering and Sales



Bulk Storage Capacity

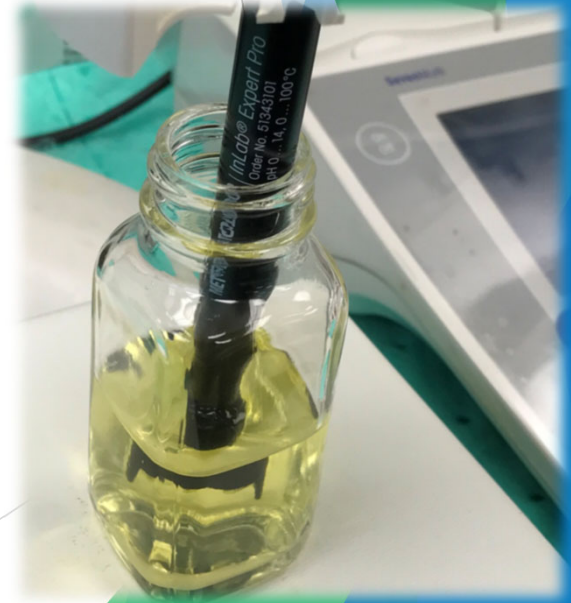
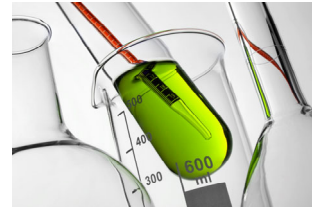
Inside storage capacity over
500,000 gallons.

Outside storage capacity over
120,000 gallons.

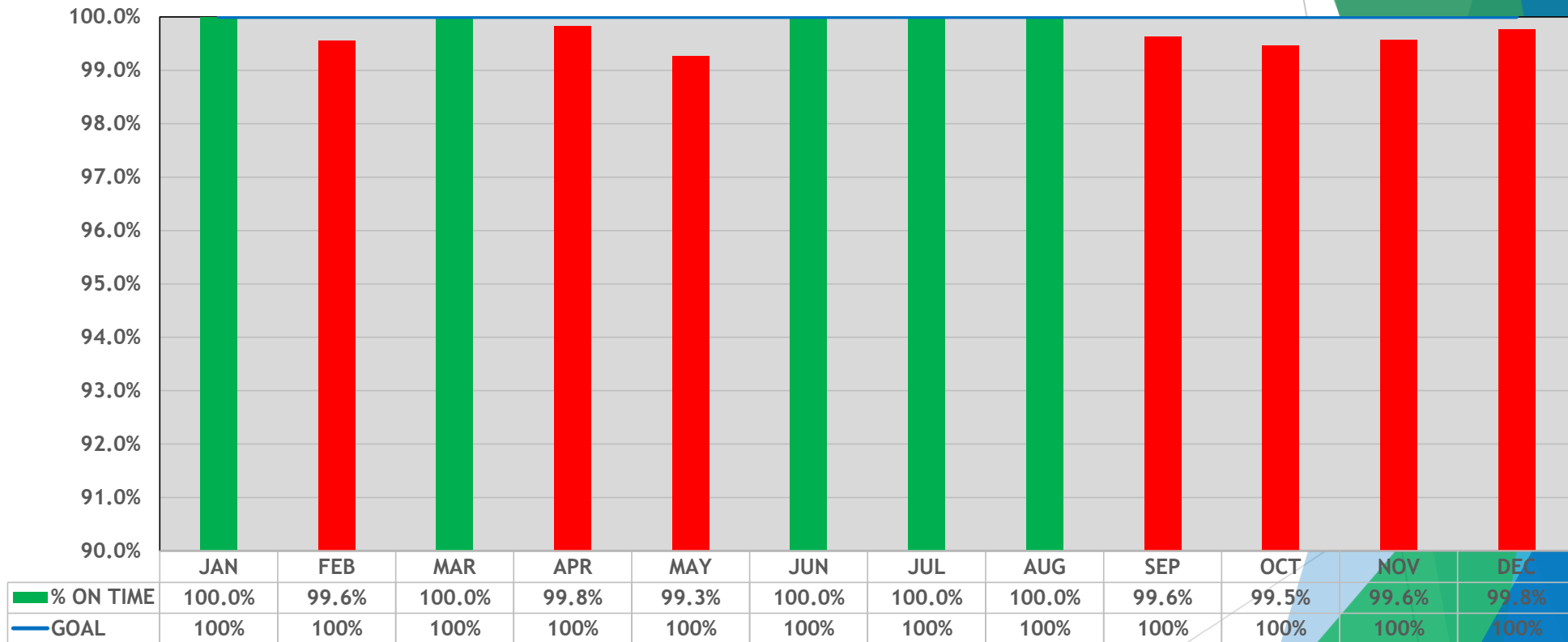


Product Development

- Two Independent On-site R&D Labs
- Chemists & Technicians combined 95 years formulating experience
- Formulating specific to customer applications



Goal: 100%



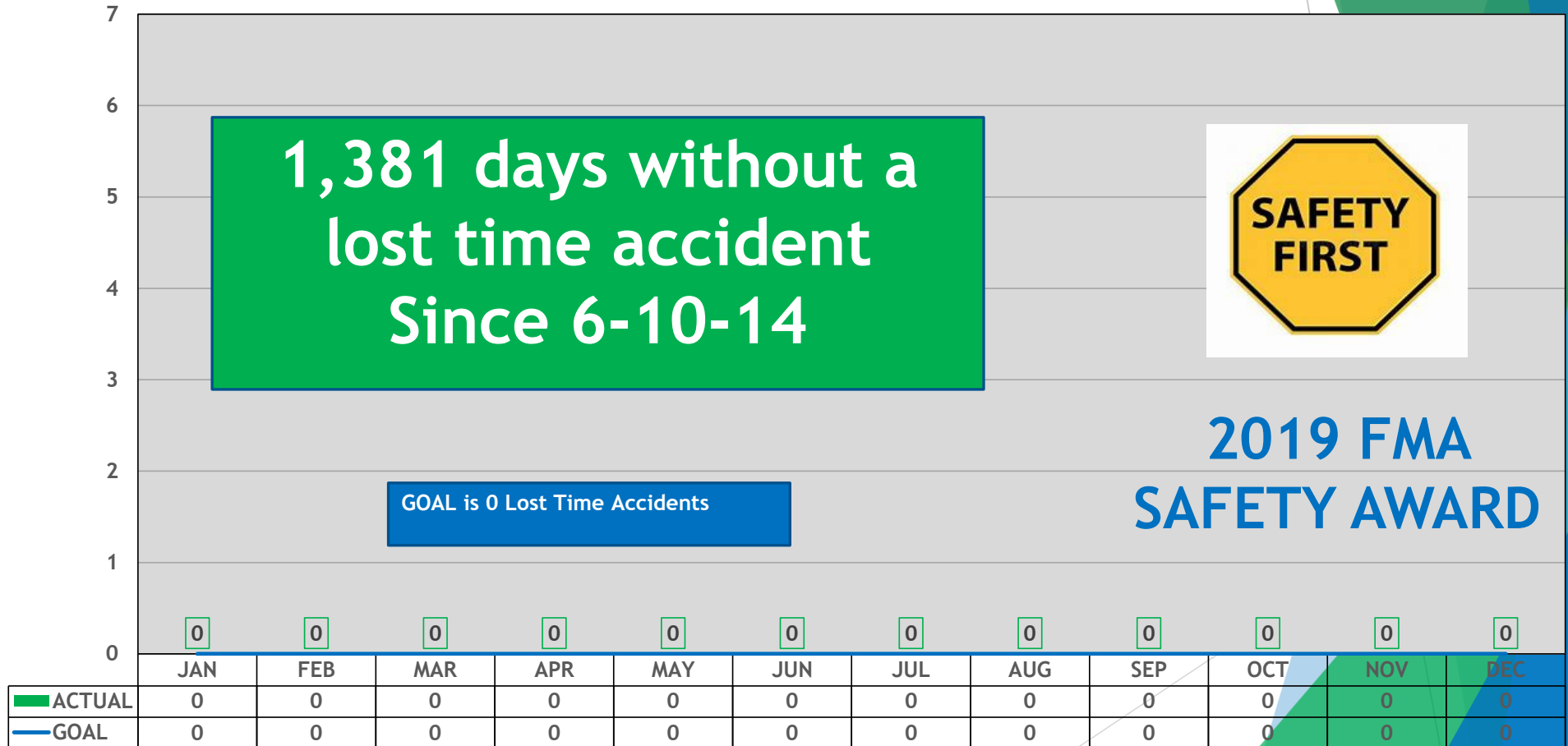
2019 Lost Time Accidents

**1,381 days without a
lost time accident
Since 6-10-14**



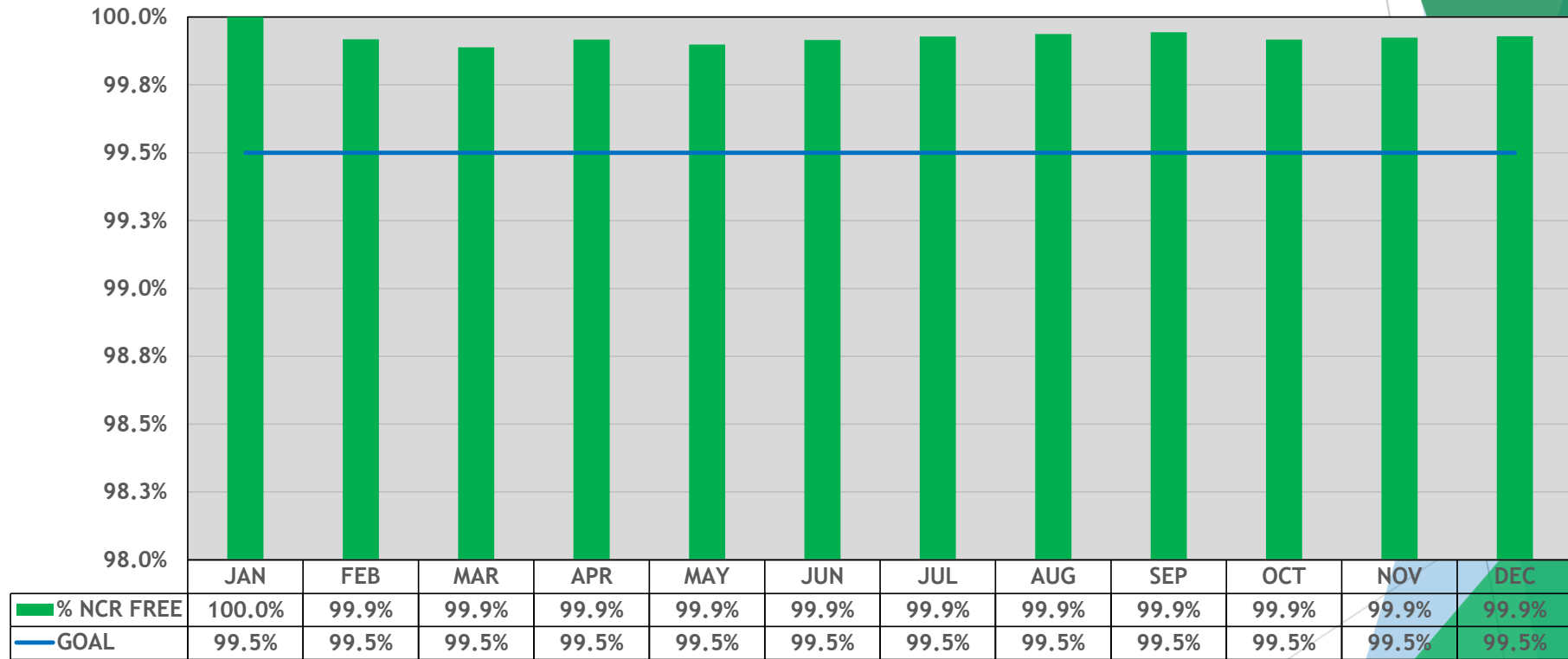
GOAL is 0 Lost Time Accidents

2019 FMA SAFETY AWARD



2019 Quality Objective 3 - NCR Free Shipments

Goal: < 99.5% shipments NCR free

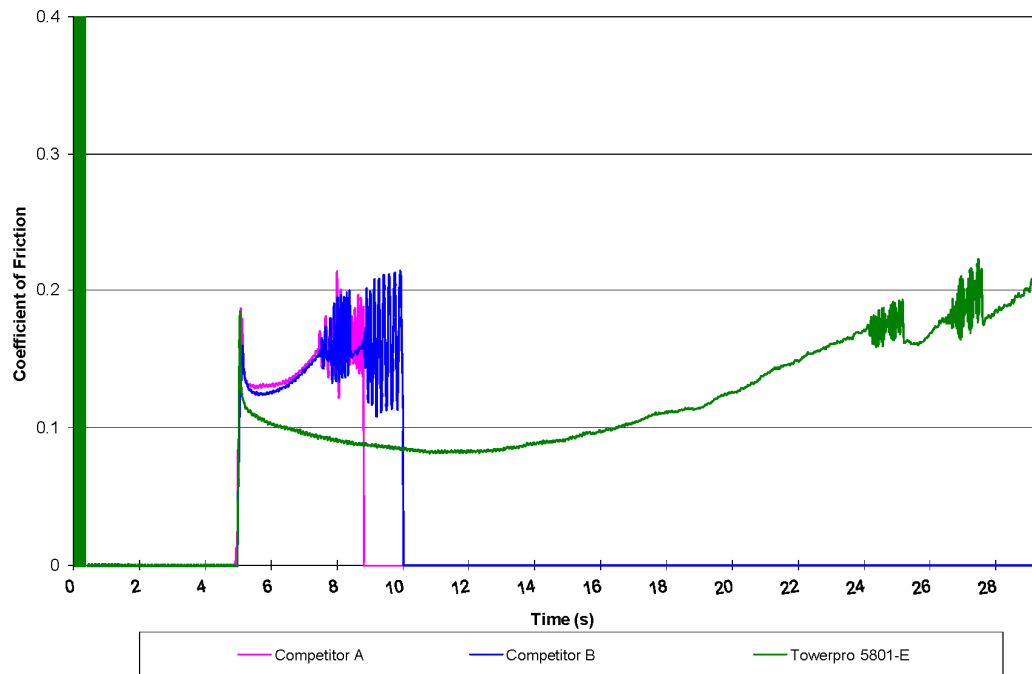


Quality

Twist Compression Tester (TCT)

One of only twenty such testing units in the US providing valuable data of load carrying capabilities and slip values on experimental “Metalworking Lubricant” formulas

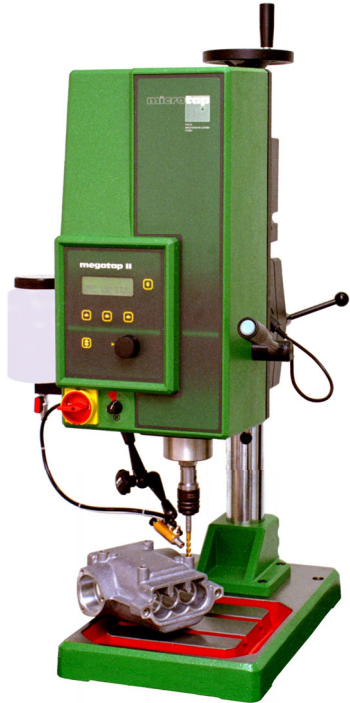
TCT Results for Competitor A, Competitor B, & Towerpro 5801-E @ 10% D.I. @ 30,000 psi on CRS



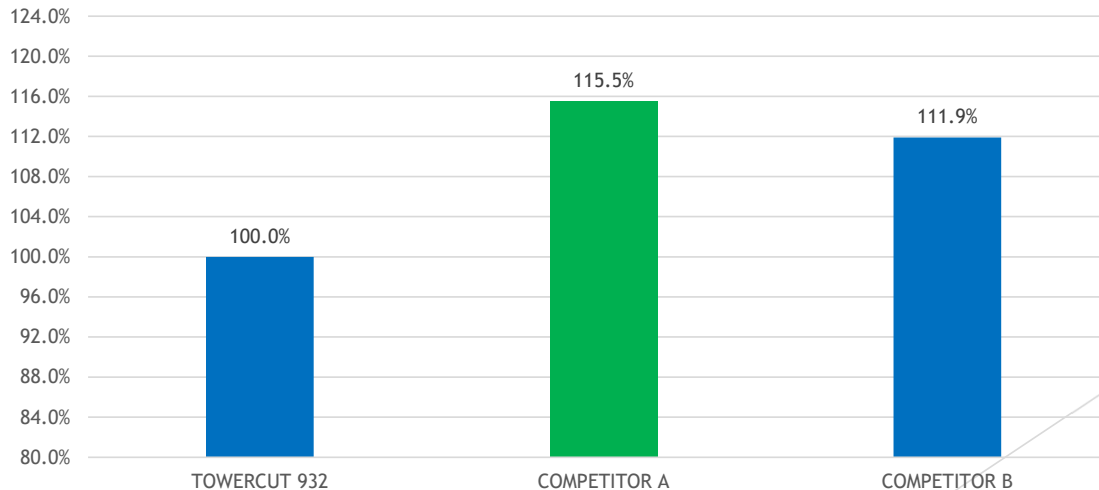
Quality

Micro Tap Torque Tester

- Quantitative Measure of the Lubricity Performance.
- ASTM standard method designation of D5619
- Excellent test of discriminating product performance in the laboratory.



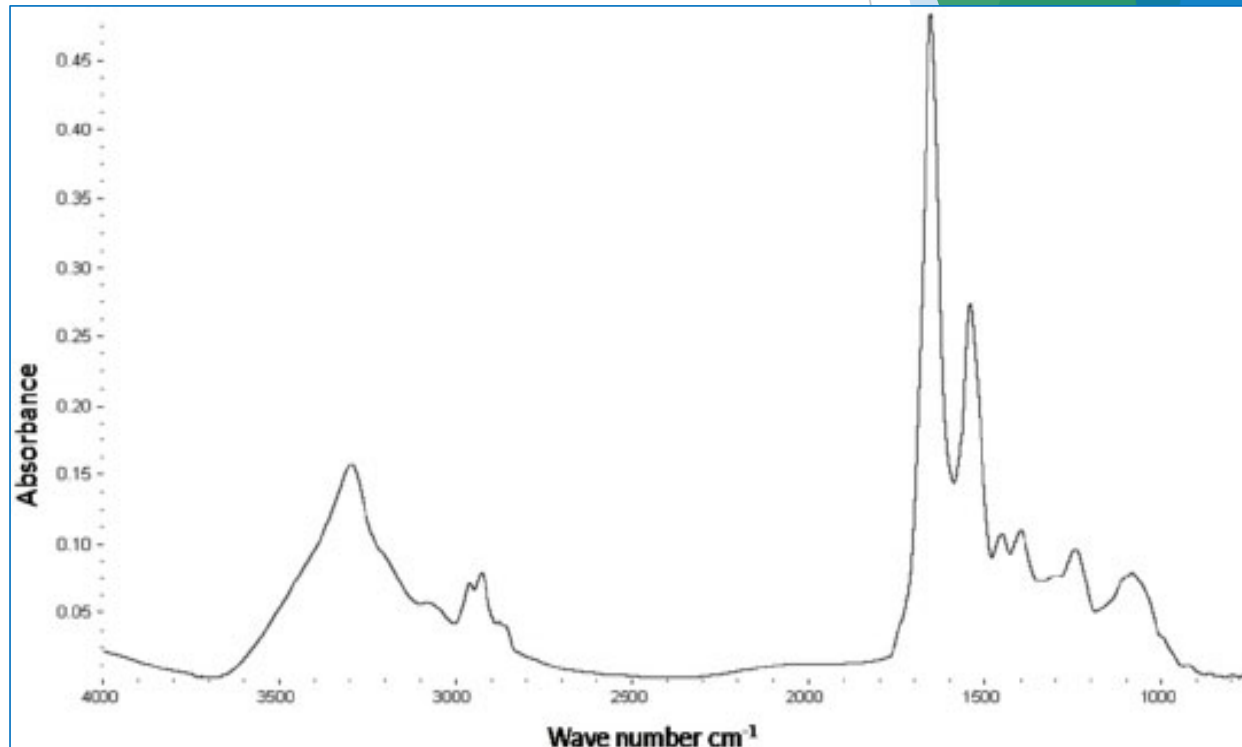
Tapping Torque Test Results on 1018 Steel



Quality

FTIR

- FTIR stands for Fourier Transform Infrared Spectroscopy.
- Utilizes infrared light and specialized electronics to enable high resolution spectroscopy to identify organic, polymeric and in some cases inorganic materials.
- Enables accurate quantification and identification of Tower products to ensure precise manufacturing and quality control.



Metal Removal Coolant Line (Cutting & Grinding Fluids)



TOWERKEM

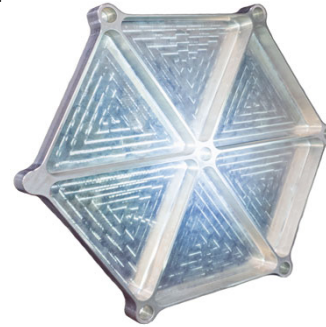
Products are high performance, biostatic, synthetic coolants with special chemistry that reject tramp oils while providing exceptional rust protection and extended sump life. Exceptional performance on ferrous and non-ferrous metals and chemistry that continuously cleans and rinses the machine as it runs.

Performance speaks for itself!

SAF-T-COOL

Chemistry formulated with renewable resources and low foam characteristics that cleans and rinses the machine as it runs, eliminating residues and protecting against corrosion.

Saves you money!



Health & Safety First!

Our unique products use Tower's exclusive **"Clean Fluid"** and **"Green Fluid"** technology, which are petroleum free and have No Hazardous Warnings.



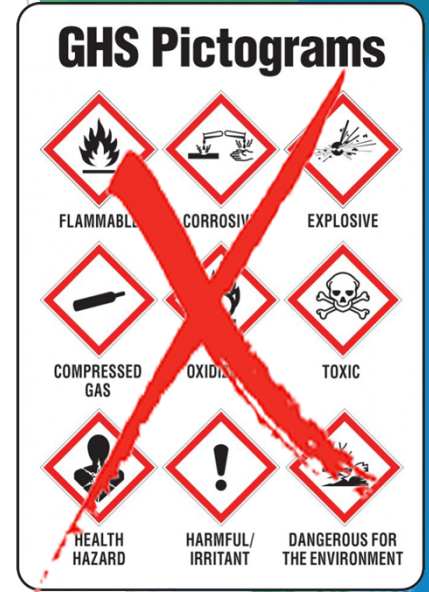
*Before using Tower
Saf-T-Cool*



*90 Days After using
Tower Saf-T-Cool*



Pictogram-Free!



Monitor Performance Reporting



LABORATORY MONITOR SUMMARY

COMPANY: XYZ
LOCATION: Chicago
TOWER REP: John Doe

PRODUCT: Towerkem XXX
TANK SIZE: 2300 Gallons
UNIT/NUMBER: Central Sump System

Date Rec'd	Sample Date	Lab No.	RI		Volume %	pH Greater Than	Conductivity Less Than	Tramp Oil Less Than	Appearance	Odor	CIC Rust	Total Biological Activity (TBA)	Metal Fines Less Than	Alkalinity mL/RI	2024-T3 AL Staining	7075 AL Staining
			Low	High												
Target Range			3.6	5.4	7.5%	7.4	7500	3%	Clear/Slt Hazy Blue	Typical	<Slight	≤ 10 ⁴	2%	15.2	<Slight	<Slight
03/09/20	03/03/20	20-093	4.5		7.5%	7.8	3270	Nil	Clear Colorless	Typical	Nil	Nil	Nil	16.0	Nil	Nil
03/17/20	03/11/20	20-105	4.6		7.7%	7.8	3360	Nil	Clear Colorless	Typical	Nil	Nil	Nil	16.4	Nil	Nil
06/08/20	06/02/20	20-146	4.5		7.5%	7.7	3390	Nil	Slt Hazy Colorless	Typical	Nil	Nil	Nil	17.3	Nil	Nil
06/19/20	06/10/20	20-167	4.6		7.7%	7.7	3450	Trace	Slt Hazy Colorless	Typical	Nil	Nil	Nil	16.6	Nil	Nil
06/23/20	06/18/20	20-171	4.7		7.8%	7.7	3490	Trace	Slt Hazy Colorless	Typical	Nil	Nil	Nil	16.8	Nil	Nil
06/30/20	06/25/20	20-174	4.6		7.7%	7.8	3510	Trace	Slt Hazy Colorless	Typical	Nil	Nil	Nil	16.9	Nil	Nil
07/06/20	07/01/20	20-178	4.7		7.8%	7.6	3520	Trace	Slt Hazy Colorless	Typical	Nil	Nil	Nil	16.5	Nil	Nil
07/13/20	07/08/20	20-184	4.7		7.8%	7.7	3590	Trace	Slt Hazy Colorless	Typical	Nil	Nil	Nil	16.3	Nil	Nil
07/20/20	07/13/20	20-188	4.7		7.8%	7.6	3550	Trace	Slt Hazy Colorless	Typical	Nil	Nil	Nil	16.5	Nil	Nil

COMMENTS - REFER TO NOTES BELOW ADDITIONAL COMMENTS

20-093
20-105
20-146 1
20-167 1
20-171 1
20-174 1
20-178

Note	Criteria	Definition	Control Recommendation
1	RI	Refractive Index	Adjust the concentration to the targeted range.
2	pH	Alkalinity materials	Use coolant concentrate to increase the pH.
3	Conductivity	Charged materials	Do a partial or total dump and recharge the system.
4	Tramp Oil	Oil Contamination	Check for proper skimmer operation & remove floating oil.
5	Appearance	Fluid Appearance	Observe.
6	Odor	Fluid odor	Treat foul odors with biocide/fungicide.
7	CIC Rust	Corrosion	Adjust concentration & pH if needed. Treat TBA. Use LS-T-457
8	TBA	Bacteria, fungus, mold	Treat with biocide/fungicide to control biological activity.
9	Metal Fines	Chip removal	Address chip removal & filtration.
10	7075 AL	Aluminum Staining	Treat with aluminum stain inhibitor.

Metalforming Lubricants

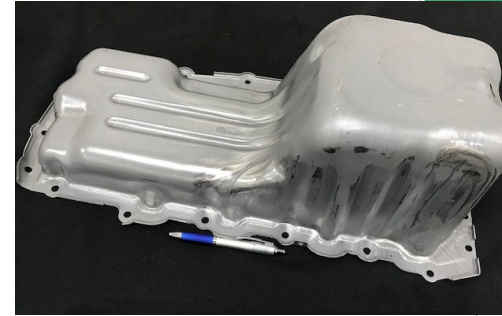
Our formulated lubricants provide high-performance and lubricity for a variety of metals and applications. We formulate with the highest quality ingredients to lower concentration and provide excellent rust and stain protection.

KLENEDRAW®

Water soluble, *Oil-Free* solutions producing exceptionally clean parts that can even be welded and provide excellent rust protection. Suitable for light to heavy duty metalforming operations, KLENEDRAW is a synthetic product that can meet the forming and non-oxidation demands of all types of substrates including AHSS, Stainless, Aluminum, and Zinc steels.

TOWERPRO

Water soluble oil technology offering premium performance from light-duty to extra heavy-duty metal forming operations. Formulated for long lasting stable emulsions, this product line provides “extreme” pressure characteristics and improve wetting of metal surfaces.



Providing Exceptional “Value”

- **Increased Tool Life**
- **Eliminate Foul Smell & Odors**
- **Long Sump Life**
- **No Clogging Screens or Filters**
- **Lower Overall Usage Cost**
- **No Sticky-Tacky Residues**
- **Environmentally Friendly & Safe Products**
 - ✓ **Eliminate Hazardous Ingredients**
 - ✓ **Clean Fluid / Green Fluid Technology**
 - ✓ **Improved Operator Safety and Morale**





***“Engineered Solutions
Bottom Line Results”***



Contact Us: info@towermwf.com

Visit us at: www.towermwf.com

