



# aef/fyi



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THE OFFICIAL NEWSLETTER OF A.E.F. SALES ENGINEERING COMPANY

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"America's  
Favorite Newsletter"

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TEAM AEF



Our 42nd Year

## CONTENTS:

### WHEN IN NEW YORK

An eminent engineer from Ancient Rome, magically transported to the Big Apple can't believe what he sees.

### SUPERCABLE FRAGILISTIC EXPIALADOCIOUS

Even though the sound of it is something quite atrocious, You should read this article so you can be precocious, SuperCable Fragilisticxpialadocious!

### CULTURE CLUB

Here at aef/fyi we're known for abundant culture and class. Join us as we preview the Teapot Museum of Sparta, NC. (We hope you enjoy it, because you're paying for it.)

### ASK BERNADETTE

The World's Only AnswerCow answers reader's queries with a much-needed dose of Common Sense.

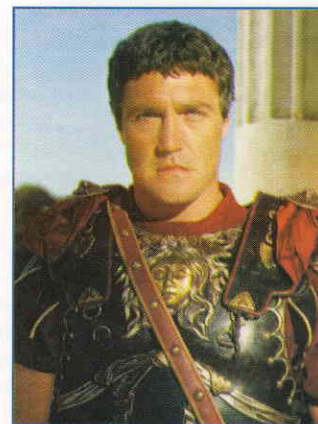
## "Faccium Questi Pipio Infernale?"

An Engineer from Ancient Rome Tours the Big Apple

The staff here at aef/fyi recently hornswoggled the famous Dr. Peabody (remember him and his boy, Sherman, from the *Rocky and Bullwinkle Show*?) into letting us borrow his legendary Way Back Machine. We used it to visit Ancient Rome, circa 100 A.D. We were blown away by the feats of the Roman engineers, and we actually brought one of them, Maximus Grappa, back with us, to get his take on 21st century engineering and technology.

We started Max off at AEF Galactic Headquarters, where he was fascinated by the computers and the fluorescent lights, and more fascinated still by the electrical power that made them possible. Then we drove him into Manhattan. He was impressed with the cars; he was not impressed with the roads. He loved the George Washington Bridge (*Imagine what we could do if we had steel!*). Skyscrapers, the subway, and the lights of Times Square all got high marks.

"Do you guys still use marble? I love to work with marble." So we arranged to take him to an apartment on Central Park West that being re-done, with a whole lot of marble. Max approved. In one area an hydronic floor warming system was being put in. He smiled: "That's how we do it too. It works pretty good, only problem is you get leaks, and people get mad. A good friend of mine did a master bath for Tiberius with that stuff. I miss him." (*Go to page 3*)



Maximus Grappa

## SuperCablefragilisticxpialadocious!

**EDITOR'S NOTE:** On behalf of the entire staff of aef/fyi we'd like to apologize for the above headline, which is as lame as anything we've ever come up with. But do not be afraid; the article itself contains valuable information which has the potential to turn you into a Hero.

Customers of AEF Sales have come to rely on our reputation as "Mavens of Heat" to keep them a step ahead in heat tracing, and one thing that helps in aheadedness is using Nelson's CLT-JT SuperCable.

CLT-JT starts out just like Nelson's famous CLT-CB cable, which is frankly a pretty good place to start. After all, we've used miles and miles of it all around AEF Land, and it's one solidly built self-regulating cable. Its copper conductors are *bonded* to the conductive core, which is *bonded* to an inner thermoplastic jacket, which is *bonded* to an outer thermoplastic jacket, which is then lovingly surrounded by a tinned copper braid. (Important Fact: All that bonding is vital to the longevity of the cable's life, and yet no one else does it!) (*Go to page 2*)

### HANDY REAL-LIFE TOWER IDENTIFICATION CHART



IVORY TOWER



COOLING TOWER

If you're heat tracing an ivory tower, use anything.  
If you're heat tracing a real-life cooling tower in a not-so-perfect world, you want CLT-JT cable.  
AEF has 57,388 feet of it on the shelf, just for you.

Clip & Save

# memo

FROM  
**PETER FASOLINO**

*The more grateful we are for what we have, for the simple, wonderful fact of life itself, the less we will yearn for what we do not have.*

*Eric Riss*

*We heap up around us things that we do not need just as the crow makes piles of glittering pebbles.*

*Laura Ingalls Wilder*

*I have called out but you keep refusing. I have stretched out my hand but there is no one paying attention*

*Proverbs 1:22*

*The feller that agrees with everything you say is either a fool or he is getting ready to skin you.*

*Kin Hubbard*

*What men usually ask for, when they pray to God, is that two and two may not make four.*

*Russian Proverb*

*Here's how you could get rich: Start a women's clothing store called 'SIZE 2', in which all garments, including those that were originally intended to be restaurant awnings, had labels with the words 'SIZE 2'.*

*Dave Barry*

*The idea is that a collective body of shared knowledge and experience will offer more and better solutions to a problem than any one person.*

*Taking that concept and making it a reality, especially with people working in three different locations, requires a somewhat expanded definition of the word "room". Let's call it a "workspace" instead. Within that workspace, information that is not readily accessible to anyone who needs it is essentially the same as no information at all. No information means that each person in the workgroup is continually re-inventing the wheel. This is a problem both because it is inefficient, and because the wheel is likely to not come out round every single time.*

*At AEF Sales, we take a number of steps to try to make sure the collective experience of the whole workgroup is available to the person who answers your phone call or e-mail. Provide the quote number, and any AEFer at any location can pull up the record. Need an update on product availability? Everyone has access to the inventory database to let you know what is on the shelf right now. The system voltage just changed from 120 to 277? All heater design data is on the server, so the update can be made quickly, along with changes to the bill of material or lead time --- even if the salesman who originally provided the quote is out of the office.*

*The collective effort extends to the wide variety of somewhat random information that has accumulated over the forty-two years of AEF Sales' existence: unusual design problems and solutions (like snow melting a glass sidewalk), sources for products that we don't handle but that our customers might need, or the temperature needed to maintain the flow of palm oil --- all this and more is stored in a searchable infobase that is continuously updated by AEFers as they come across new and useful information. Hey, you never know when the next glass sidewalk is coming.*

## SuperCable for the Real World . . .

That braid provides mechanical protection to the heater, and it also provides a path for fault current in order to trip protective devices, reducing the potential for fire and electric shock. In fact, braiding is so important that the NEC has required it since 1996. But TEAM AEF and their customers were already ahead of the curve; from the very beginnings of plastic, field-fabricated cables, AEF always supplied the 'optional' braid as standard, just because it was the right thing to do. When important issues like the safety of maintenance personnel and system reliability are considered, the small premium to add the braiding, as a percentage of overall installed cost, was a cheap insurance policy. It took years for the NEC (and our competitors) to catch on.

**Ahead of the Curve. Again.** Now AEF has standardized on CLT-JT SuperCable in most of our designs, for a whole lotta good reasons.

First off, while that tinned copper braid is vital, it's not invulnerable. It's susceptible to corrosion from moisture. In the real world weeks may go by between installation of the heater cable and installation of the insulation, and by then damage may have already been done.

The danger persists even after the pipe has been insulated. If the insulation gets damaged, or the pipe or a flange or a valve starts to leak (and these things happen every day), that braid may find itself in a permanently wet environment. Then the braid can deteriorate and you can lose your fault current path, and those expensive GFI breakers become worthless, unable to do their job. That's not good.

**Survivor.** They say you should never watch sausage being made, and you're probably better off not seeing heater cable installed. It's not pretty: heavy tools get dropped onto innocent heater cable; and watching a two hundred foot piece of cable get pulled through hangar supports is not for the squeamish. That's why the overjacket is so dang important --- it protects that vital braiding during brutal installations. That's why when you get a design or quote from the sweet people of TEAM AEF, you'll see them using CLT-JT SuperCable. And that's why they have 57,338 feet of it in their Amazing Local Stock, so you can have it tomorrow.

So remember, if you're heat tracing an Ivory Tower, use whatever the heck you feel like using. But if you're heat tracing in the Real World, with all its brutality, make sure you use Nelson's CLT-JT SuperCable.

**All together now:**

**SuperCablefragilisticexpialadocius!**

**"The smartest person in the room is everybody."**

*I came across that observation not long ago (can't recall exactly where) and it sounded like a good description of the team concept we work with here at AEF Sales.*

### WE HAVE A WINNER!

Congrats to Tom Lerner of Forest Electric, winner of our Top of the Rock Contest. Tom and his guest will tour the World's Highest Snowmelting System atop Rockefeller Center, and enjoy lunch at the Rock Center Café





**Bernadette**  
The AEF Sales Answer Cow

DEAR BERNADETTE:

I'm an engineer who's sick and tired of what passes for submittal cuts these days. I just wasted half the morning trying to decipher the 'cuts' for a heat trace system. What a disaster! First off, what they give me is what looks like a third generation copy of a catalog page, which is bad enough. But the page has eight different cables on it, without any clue as to which of the eight they are submitting on. Same with the controls. Once in a blue moon I see cuts where the items being submitted on are highlighted with yellow marker, but if I need to make a copy that highlighting disappears and I'm back to square one.

I don't have the time for this nonsense, and even if I did there's other stuff I'd rather be doing. Does anybody make the effort to do the job right anymore? Does anyone care? Help! H.G.

DEAR H.G.:

I'm sorry to say that your plight is a common one. There is a lot of emphasis today on 'getting it done', and very little on 'doing it right'. The way I recommend navigating through a world where no one seems to care is to seek out and associate with people who DO care, who know what they're doing and take pride in their work.

## Pipio Infernale . . .

Max looked at all the tubing. And all the manifolds. And the circulating pumps. And the circulating pumps. And the air vents. And the drains. And the controls. Then he thought a minute: "Hey, couldn't you use that electricity stuff to make heat, and warm up the floor that way? It would be a lot neater and a whole lot simpler."

We couldn't have agreed with him more. He was happy to hear that MI heater cable uses electricity to generate the exact amount of heat needed, exactly where it's needed. No complicated pumps and controls to maintain, no pipes, and no leaks.

The next second Max's face changed and he erupted with anger. "Faccium questi pipio infernale?!?" (Rough translation: What the heck are you messing around with all that stupid piping?) "You think we'd fool around with all that tubing in Rome if we had ELECTRICITY?"

Good questions, Max.

There are just no good answers.

In this particular case I would like to direct you to submittal cuts AEF Style. They create their cuts by electronically marking up the original pdf files, with the specific items being submitted on circled in red, so you can see quickly and clearly exactly what you are being asked to approve. If you need to make a copy any of the pages, the relevant items will still be easy to pick out. And copies of the submittal cuts are saved on AEF's server, along with other project documents. Some people may think it's too much trouble to do the job right, but that's the way TEAM AEF operates. Here's hoping your next submittal cuts come from AEF Sales!

DEAR BERNADETTE:

I've got an urgent transformer requirement that isn't exactly plain vanilla, and I can't find anybody who'll even talk about it. The salesman doesn't understand what I need, and there don't seem to be any engineers at transformer companies anymore. Is there any hope for me? S.G.

DEAR S.G.:

There's always hope. Years ago transformer companies employed Real Engineers, who understood what their customers needed, and Real Designers who could design what was needed. Today most transformer companies are owned by Giant Corporations, and the people who knew transformers have been replaced by Marketing Dudes, whose goal is to make Corporate Headquarters happy (not you), so they can get promoted to the Entertainment Division. But here's how you beat their system.

You work with independent transformer companies, owned and run by people who actually know about transformers. (What a concept!) Two such companies, Central Moloney and R.E. Uptegraff are, by incredible coincidence, represented by AEF Sales.

I bet you feel better already!

*A day without cannolis is like a day without sunshine.*

*Phil Rizzuto*

*If something can't go on forever, it won't.*  
*Herb Stein*

*Nil nisi divinum stabile est, caetera fumus.*  
*Andrea Mategna*

*As long as you know that most men are like children, you know everything.*  
*Coco Chanel*

*Even if I did fall, which there's no chance of, the King has promised me to send all his horses and all his men. They'd pick me up in a minute, they would.*  
*H. Dumpty*

*If something CAN leak, it eventually WILL leak.*  
*Maximus Grappa*

*A whole loaf is better than a kick in the head.*  
*N.R.P.S.*

*We find it hard to believe that other people's thoughts are as silly as our own, but they probably are.*  
*James H. Robinson*

### ENERGY IS EXPENSIVE!

OK, you knew that. And it's gonna get expensiver. So don't waste it.

With an MI floorwarming system from TEAM AEF, heat is produced only *when* it's needed, exactly *where* it's needed.

And until someone changes the laws of physics, heating something up at Point A, and transporting it to transfer that heat at Point B is gonna involve losses.

Trying to transfer heat through a good *insulator*, like plastic tubing is also wasteful.

With an MI cable floorwarming system, that expensive energy is spent warming floors, not running pumps.

**So you spring a little leak — what's the worst that could happen?**  
[www.realestatejournal.com/buildimprove/19981016-daspin.html](http://www.realestatejournal.com/buildimprove/19981016-daspin.html)

## Ain't Culture Grand?



Short and Stupid

In 1985 California tax attorney Sonny Kamm and his wife Gloria began collecting teapots. "Originally I thought teapots were a narrow enough area," says Sonny, "But I now know the immense scope of the world of teapots." Gloria adds "Teapots can be made out of almost any material." She also helpfully points out that "after water, tea is the most popular beverage in the world, and where you find tea, you find teapots."

It's hard to argue with deep thinkers like Sonny and Gloria, who have now amassed over 6,000 teapots worth \$5,000,000, including the stunner pictured above left, and another one called 'Arms Dealer' which we are told "depicts a stogie-chomping entrepreneur. The gun-barrel spout is not meant to deliver tea so much as greed and death". Who knew teapots could be so deep?

The question arises: Where are you gonna put 6,000 teapots? The answer: in a 30,000 square foot museum in Sparta, NC. And this, dear readers, is where we come in. The projected \$10,000,000 cost is going to come from government grants of \$3.75 million (the Feds are in for a million so far, with another \$380,000 coming from North Carolina's share of Tobacco Settlement money), with the balance coming from 'charitable and family trusts' (meaning tax deductions) and 'corporate and individual funding' (meaning *more* tax deductions). But it's all in a good cause: the Museum will 'expose visitors to the everyday teapot as an art form', and also 'establish Sparta as a cultural destination'.

If you'd like to donate (more than you already are), you can contact them at (336)372-8118 or [spartateapotmuseum.org](http://spartateapotmuseum.org).

## Backwords

### Anniversary Waltzes

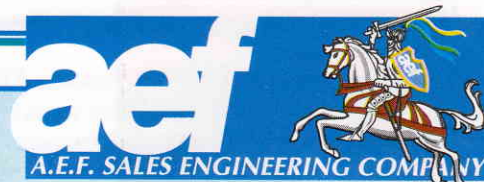
Last issue we ran what we felt was a clever little message of congratulations to AEFer Wes Rayburn on his fifth anniversary here. Turns out we have missed a bunch of other AEF Anniversaries. As a public service, we herewith provide starting dates for all AEFers. (You'll have to do the math yourself.) Fred Eigenrauch -10/1/94. Pietro Fasolino -6/1/99. Brandy Monette 10/1/00. Brandon Monette -2/1/02. Cindy Gutierrez 2/1/05. Peter Fasolino and Chris Fasolino 3/1/64, sort of.



Da Bronx's answer to Disneyland opened up in June 1960, a 205 acre park with a re-enactment of the Chicago Fire (every twenty minutes), a Little Old New York, a farm where the real Elsie the Cow lived, and an Old West which featured gunfights. (Gunfights in the Bronx were apparently a novelty in 1960.) The park struggled financially; the final blow was the opening of the World's Fair in 1964. Co-op City was then built on the site.

### Weld Done

It might seem silly to have to prematurely replace a transformer that was perfectly good, except for a "small" problem like corroded hanger brackets, but it happens every day. The spot welding most manufacturers use leaves gaps that allow moisture in, which is the beginning of corrosion, and the beginning of the end for the transformer. That's why Central Moloney continuous arc welds EVERY hanger bracket on EVERY pole mounted transformer they build. (We could go on and on about all the steps CM takes to fight corrosion, but we're at the bottom of the page.)



### TRANSFORMERS Central Moloney

Single Phase Transformers: Pole Type, Padmounted, Vault, and Stepdown  
Three Phase Padmounted Transformers  
Components: Bushings-Switches-Accessories  
JSRP Job Site Ready Padmounts

### R.E. Uptegraff Manufacturing

Liquid Filled Transformers to 20mva  
Subsurface, Load Center, Station Type  
Rectifier Applications, Zig Zag Grounding  
Phase Changing and Phase Shifting  
Traction Power, Current Limiting Rectifiers  
Rebuilding and Rewinding Services

### HEATER CABLE & CONTROLS

#### Nelson Electric Heater Products

MI Cable for Pipe Tracing & Snowmelting  
Self-Regulating Cable for Pipe Tracing  
Hot Water Maintenance Cable  
Self-Regulating Cable for Roof & Gutter De-Icing  
Thermostats & Controls  
CM-1 Cable Monitoring Systems  
CM-2 Heat Trace Management System  
CM-3 PLC Based Circuit Management System

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- IN THE NEXT EXCITING ISSUE -

## 'Miracle' Beer Diet!

Exhaustive research and testing in our aef/fyi labs, based on the following actual Scientific Facts, have yielded an amazing medical breakthrough.

**SCIENTIFIC FACT: Most beers are Lower in Calories than 1% Milk!**

**SCIENTIFIC FACT: Guinness is actually Lower in Calories than Skim Milk!**

You won't want to miss this groundbreaking diet. Read all about in September's aef/fyi!