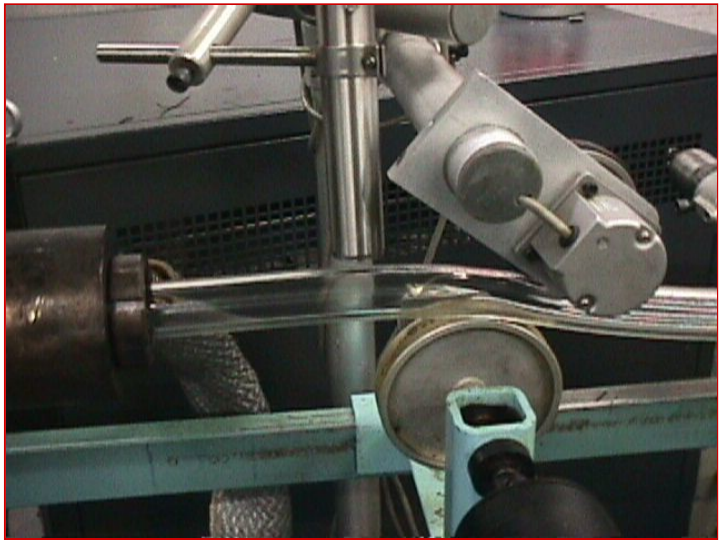
What Is PEX?

- Cross-linked polyethylene
- Life span at least *100* years
  - **Proven in long term lab testing & field applications**
  - **Over 30 years**
  - **Nearly 6 billion feet in service**



Pex is Pex

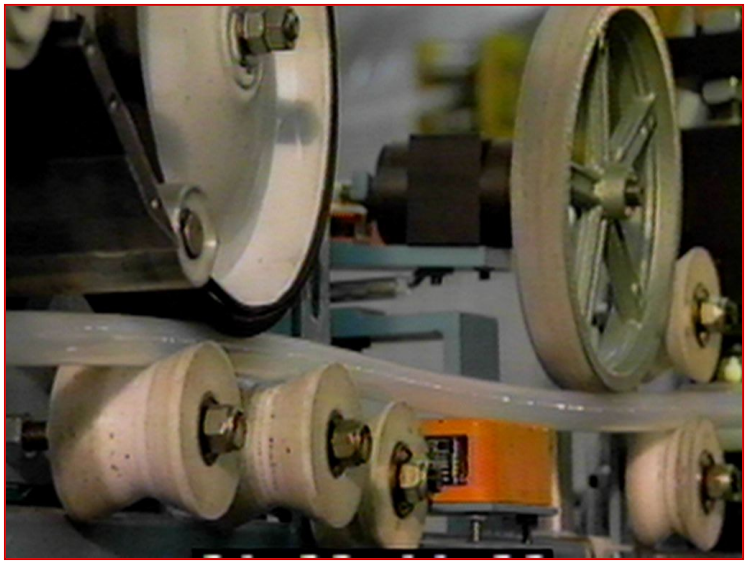
- This is a common misconception
- There are three types of Pex A,B, & C
- B&C Pex are cross linked after extrusion
- Type A Pex is cross linked as it is extruded
- Type A has a higher percentage of cross linking
- Type A has greater flexibility and memory

PEX Is PEX Is PEX…NOT!

- Electronic/radiation method PEX
  - **Cold cross linking--PE tubing made first**
  - **2M volts electricity**
  - **Not as consistent or uniform**
- Silane method PEX
  - **Cold cross linking--PE tubing made first**
  - **X-linked by heat/moisture**
  - **Lower level of x-linking (less than 70%)**

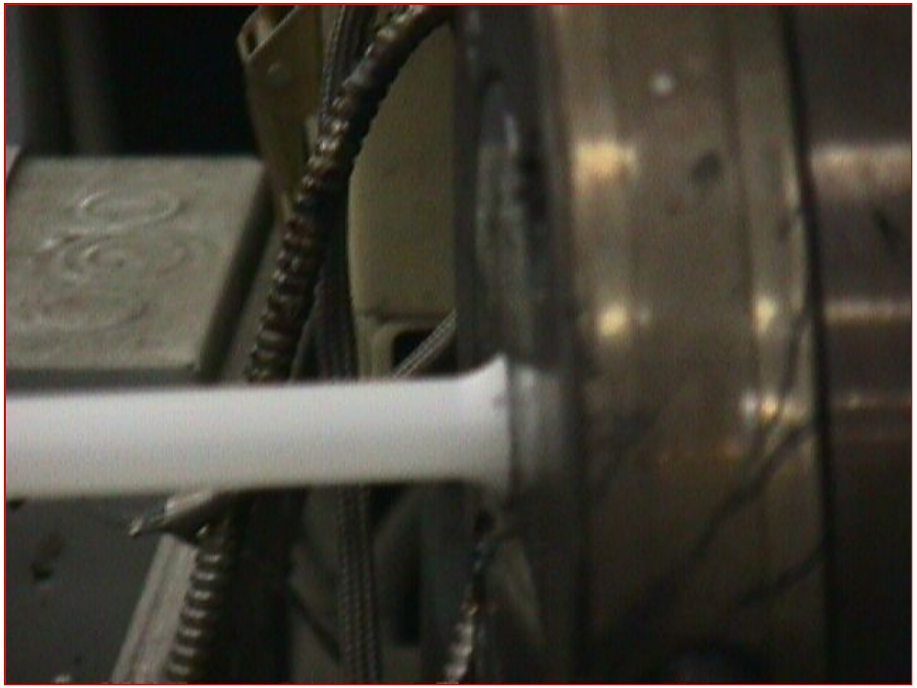
Wirsbo Engel Method PEX

- "Hot" cross-linked
  - **Consistent/reliable**
  - **Strong thermal/ elastic memory**
  - **Loses *none* of its performance characteristics**



Wirsbo Tubing

- Made in USA
- hePEX plus
  - **Heating only**
  - **O_2 barrier**
  - **200°F**
- AQUAPEX
  - **Potable water or heating**
  - **No barrier**



Pex Has Many Uses

- Radiant Floor Heating
- Snowmelt
- Feed Terminal Units
- Potable Water
- Utility Service Pipe

Pex: The Good & The Bad

The Bad

- Pex expands 1” every 100’ for every 10 degree in temperature rise
- Pex requires more hangers
- Allows molecular O2 thru pipe wall

The Good

Pex is less expensive than CU or Steel

Pex is less labor intensive

Nothing reacts with Pex which leads to long life

Pex is clean

Wirsbo Pex available in 2”

Oxygen Diffusion

What Is It? What Do We Do About It?

- Dissolved oxygen molecules pass through tubing walls
- Oxygen corrodes ferrous components

Oxygen Diffusion

System Design Options

- Isolate ferrous components
  - **Use AQUAPEX® non-barrier tubing and heat exchanger**
- Eliminate ferrous components
  - **Use AQUAPEX non-barrier tubing, non-ferrous components**
- Corrosion inhibitors
  - **Not endorsed by Wirsbo**
- Use hePEX™ plus DIN Standard 4726 O_2 barrier tubing

Joining Methods

- Types B&C
- All manufacturers use an insert fitting and a clamp
- This joining method reduces flow and is susceptible to failure
- This is a mechanical joint

- Type A Pex
- Uses cold expansion to allow for almost a full flow fitting
- Takes advantage of the memory of pipe
- Creates a “factory” joint that is like a weld