



**Endurance  
Technologies**

# Endurance Technologies Inc.



**EndurAlloy Tubing**

**EndurAlloy**



# About Endurance Technologies

Manufactured in Calgary, Alberta

Produced for the Canadian Oilfield Since 1993

Introduced into the US Market 2004

**Endur-Alloy**

# The EndurAlloy Process

- Tubing is filled with chemical pack containing boron.
- Fired at high temperature.
- Boron is diffused into the surface of new J55 tubing.
- Tubing is cleaned, straightened, inspected and painted.

**Furnace operates at  
1,000°C / 1,832°F**





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# Benefits

- **Excellent abrasion resistance**
- **Corrosion resistance**
- **Improved coefficient of friction**
- **Retains original ID**

**Endur-Alloy**





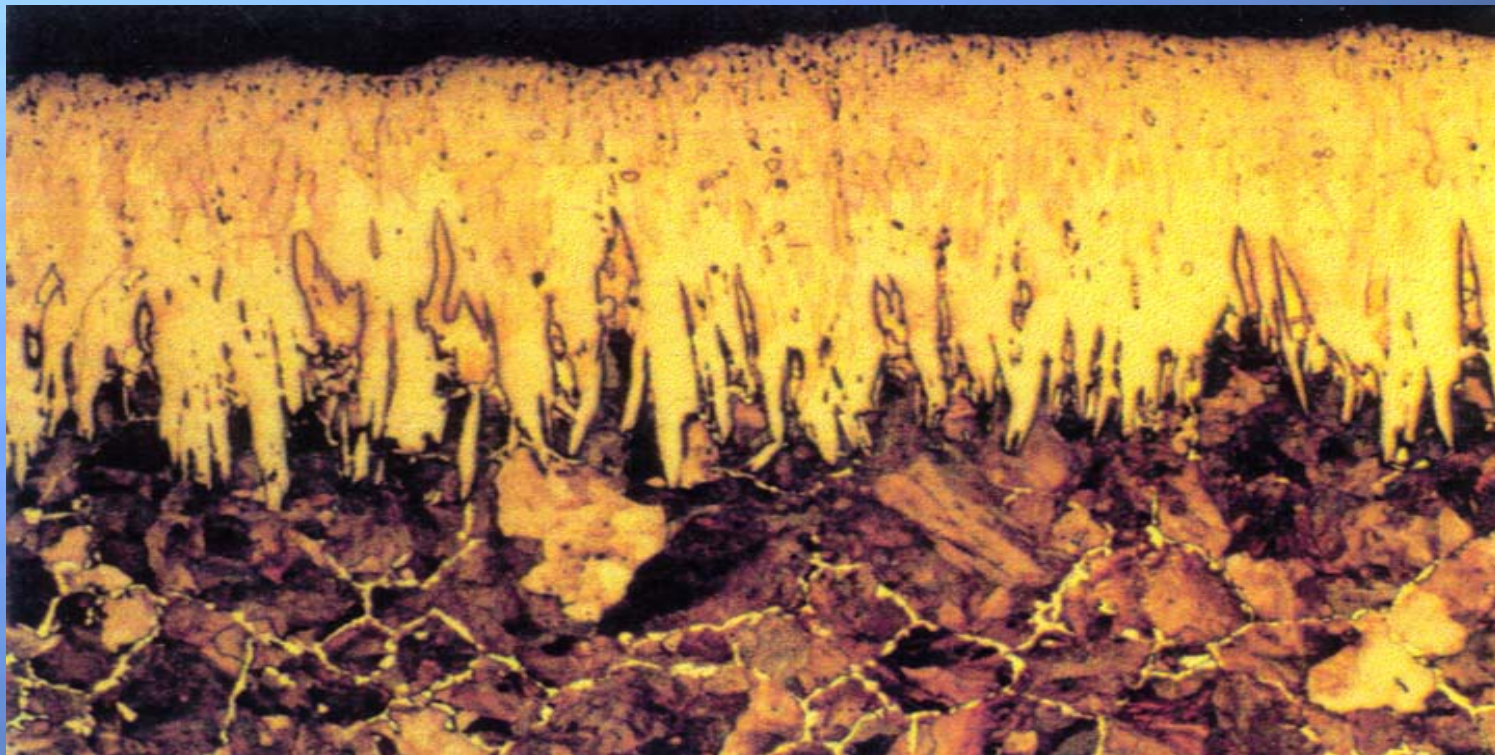
# Properties

- Retains mechanical properties of J55
- Retains original ID
- Case depth of 0.005" to 0.010"
- Hardness- 73-90 Rockwell C equivalent
- Good up to 900F

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# EndurAlloy to J55 Interface



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- EndurAlloy tubing is painted gray to distinguish it from other tubing
- The coupling is marked with an indentation





- **Reduces or eliminates these common problems**
  - Rod on tubing wear
  - Tubing on rod wear
  - Erosion at the pump discharge
  - Tubing failure due to corrosion



# EndurAlloy vs. Coatings and Liners

- EndurAlloy is NOT a coating and should not be compared to coatings.
- EndurAlloy does not share the problems associated with coatings and liners such as holidays, pits, separation, collapse, flaking, etc.
- EndurAlloy tubing retains its original drift diameter, unlike coatings and liners.
- EndurAlloy tubing can be worked in with down-hole tools like standard tubing.

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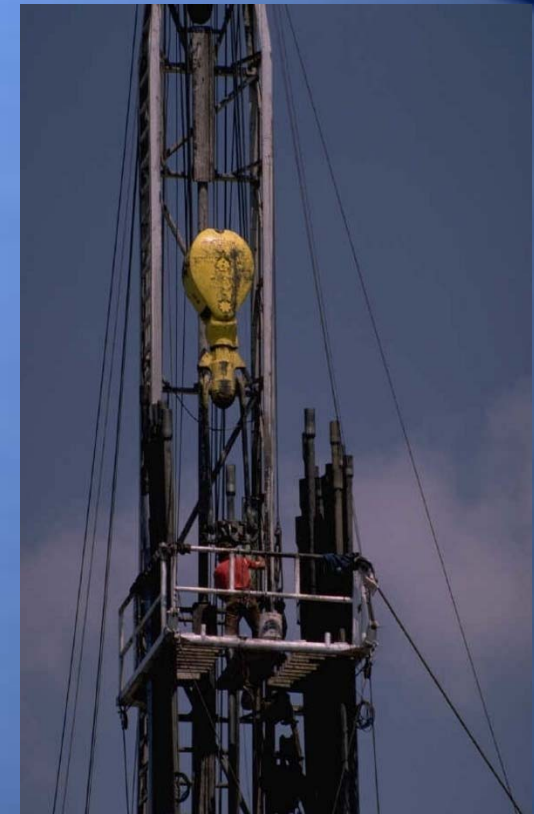


# Typical Usage

- Installed above rod pumps, PCP pumps and ESP pumps
- Multiple joints in deviated sections of the well - bore where excessive and repetitive wear occurs
- Slant wells, directionally drilled wells and horizontal wells
- At continuous rod connections
- Only necessary to run EndurAlloy tubing in the “problem” sections

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- Significantly increasing run times between tubing failures
- Reduces expenses by eliminating rig jobs and lost production.
- Extends rod string life.







# Summary

- **EndurAlloy greatly improves resistance to wear, abrasion, and corrosion in production tubing, resulting in fewer tubing failures and related expenses.**

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# General Information

- Stocked in 2 3/8, 2 7/8, and 3 1/2
- Other sizes available as special order
- Joint weight does not change
- 2 3/8 and 2 7/8 Collars are boronized to resist corrosion
- EndurAlloy case depth is not detectable by magnetic inspection
- Test data available upon request

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Thank for considering  
**EndurAlloy Tubing**

[www.endurancetechnologies.com](http://www.endurancetechnologies.com)

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