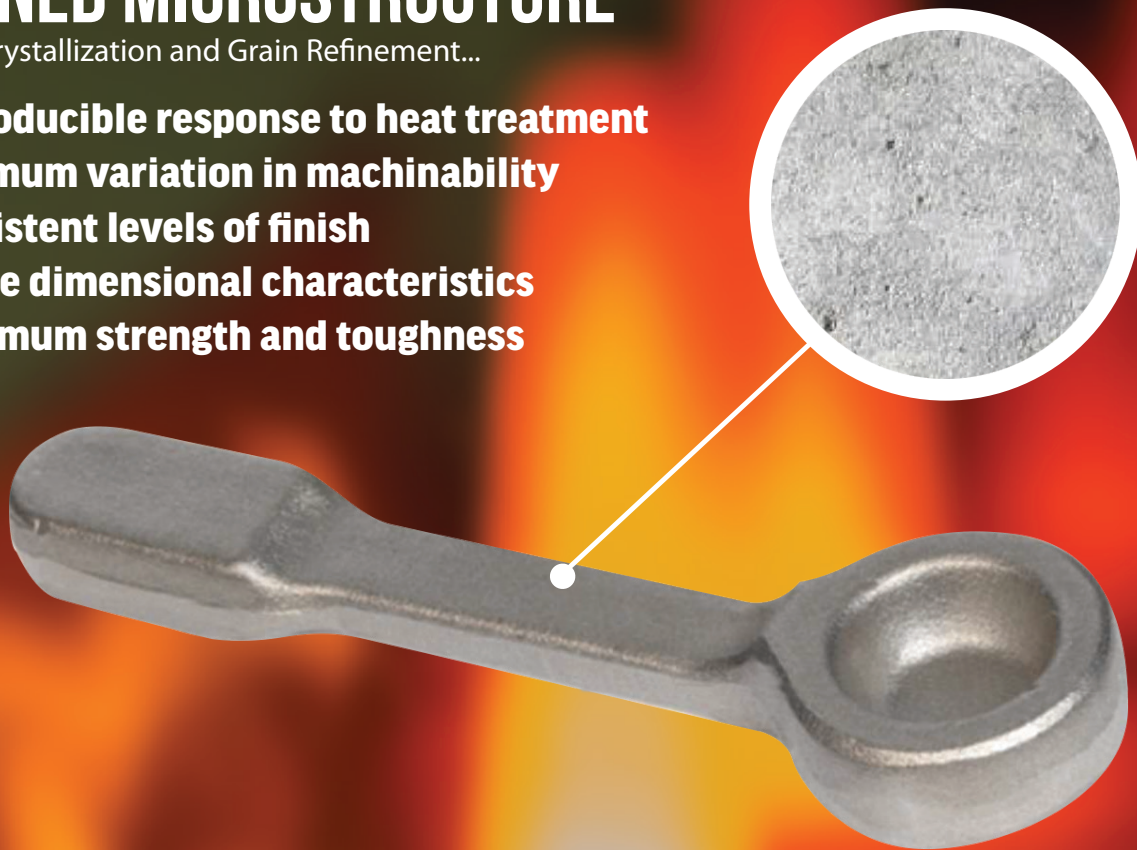


# WHY FORGINGS ARE BEST

## REFINED MICROSTRUCTURE

from Recrystallization and Grain Refinement...

- **Reproducible response to heat treatment**
- **Minimum variation in machinability**
- **Consistent levels of finish**
- **Stable dimensional characteristics**
- **Maximum strength and toughness**



### FORGING

True Grain Flow



### BAR STOCK

Grain Flow Broken  
by Machining



### CASTING

No Grain Flow

## DIRECTIONAL STRENGTH

from Controlled Deformation  
at Elevated Temperatures...

- **Directional “grain flow” = directional properties**
- **Higher strength-to-weight ratio**
- **Better ductility**
- **Resistance to impact and fatigue**