

# Sucker Rod Datasheet **EH**





#### **Product Overview**

| Material                             | Special Alloy Steel                      |
|--------------------------------------|------------------------------------------|
| Heat-treatment Method                | Quenched and tempered + Case Hardened    |
| Suitable Application and Environment | Extreme Heavy Load, less corrosive wells |

## **General Information**

EH rod is designed for heavy load and fatigue environment. During the manufacturing process, EH's post forge induction case-hardening process is fully automated and controlled with the highest precision, creating a uniform outer layer. This greatly reduces the risk of developing fatigue cracks on the rod body that are often originated at the surface, allowing the EH rod to outperform competing products in the toughest environments.

Exceed sucker rods are available in 3/4", 7/8", and 1" diameters; 25 ft or 30 ft in length.

# **Specifications**

#### **Mechanical Properties**

| Tensile S | Strength | Yie | eld | Fatigue Strength |                    | Elongation Reduction |   | Hardness<br>RC |
|-----------|----------|-----|-----|------------------|--------------------|----------------------|---|----------------|
| Ksi       | Мра      | Ksi | Мра | σ0.1<br>MPa      | cycles             | 2", %                | % |                |
| 144-180   | 993-1241 |     |     | 78.3             | ≥1x10 <sup>6</sup> |                      |   |                |

## **Chemical Composition**

| Al | С             | Cr            | Cu        | Mn            | Мо            | Ni        | Nb | Р          | Si            | S          | V |
|----|---------------|---------------|-----------|---------------|---------------|-----------|----|------------|---------------|------------|---|
|    | 0.25-<br>0.28 | 0.80-<br>1.10 | ≤0.2<br>0 | 0.40-<br>0.70 | 0.15-<br>0.25 | ≤0.3<br>0 |    | ≤0.0<br>25 | 0.17-<br>0.37 | ≤0.0<br>25 |   |

Maximum Allowable Stress

$$Sa = SF(55,000 + 0.2143 S_{min})$$

Exceed Product Datasheet – EH

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## Installation of EH sucker rod

API wrench square dimension for both ¾" and 7/8" sucker rods are 1 inch. For 7/8" EH rod, the wrench square is slightly bigger, at 1-1/8 inch. This ensures EH's wrench square matches the strength of its case-harden, enhanced body. Please make sure the work-over crew has 1-1/8 inch wrench tool ready before installing EH 7/8" sucker rod.

| Rod Size (Inch) | Rod Type                | Wrench Square (Inch) |  |  |
|-----------------|-------------------------|----------------------|--|--|
| 3/4             | EH / Other API products | 1                    |  |  |
| 7/8             | Other API Products      | 1                    |  |  |
|                 | EH                      | 1 1/8                |  |  |
| 1               | EH / Other API products | 1 5/16               |  |  |

# Service Rig Crew - Equipment and Personnel

If your work-over crew does not have prior training with induction case-hardened rods, please contact your local Exceed representative for further instruction and best practices.

