

SANHE



Grade DA Sucker Rod

Product Information

Ver 2407

PRODUCT DATASHEET

MECHANICAL PROPERTIES

Strength

TENSILE STRENGTH	YIELD	ELONGATION (2", %)	REDUCTION %
115-140 KSI	>100 KSI	>10	> 45

Max Torque

7/8"		1"	
Nm	Lb-ft	Nm	Lb-ft
800	737	1500	1107

SANHE recommends 0.8 torque load service factor for D-4142 in well design to ensure reliability.

Goodman Formula

$$S_a = SF \left(\frac{125,000}{4} + 0.5625 S_{min} \right)$$

SANHE recommends service factor <0.9 for tensile load in well design to ensure reliability.

CHEMICAL COMPOSITION

AISI 4142

C	Mn	S	P	Si	Ni	Cr	Cu
0.40-0.45	0.75-1.00	0.025 Max	0.025 Max	0.15-0.35	0.025 Max	0.80-1.10	0.25 Max

DIMENSIONS

Typical Length	Typical Sizes	Uncommon Size	Special Order
25, 30 ft	3/4", 7/8", 1"	5/8", 1-1/8"	-

APPLICATION NOTES

MATERIAL & HEAT TREATMENT

D-4142 is manufactured with AISI 4142 alloy steel in a Normalized and Tempered Process.

PRODUCT FEATURES

As a standard API D-grade product, D-4142 is mass-produced through our automated process, ensuring consistent quality and cost efficiency. The cold-rolled pin threads of D-4142 provide enhanced strength, making it highly durable in even the most demanding operating conditions. Additionally, the rod body undergoes shot peening to improve fatigue resistance.

To ensure optimal protection, all products are coated with rust inhibitors, bundled with rust-free spacers, and securely packaged with PE end-caps for sea-worthy transportation.

SUITABLE APPLICATIONS

D 4142 is ideal for medium to heavy load, non-corrosive or well inhibited wells.

DESIGN CONSIDERATIONS

When designing with D 4142, we recommend using a service factor of 0.9 to ensure reliability. However, some of our customers have successful in D 4142 application using service factors up to 1.0 in design software.

PCP APPLICATION

D-4142 can be used for PCP wells. Alternatively, SANHE's DR series product, featuring modified API pins, is specifically designed for PCP applications. Please consult with SANHE's representatives to determine the most suitable product for your needs.

The logo for SANHE, featuring the word "SANHE" in a bold, blue, sans-serif font. The letters are closely spaced and have a slight shadow effect.

New Sucker Rod Plant

In 2024, SANHE proudly inaugurated its cutting-edge sucker rod manufacturing facility. This state-of-the-art plant is equipped with the latest in automated forging, threading, and heat-treatment lines, setting a new industry standard for quality and efficiency in sucker rod production.

The facility's advanced technology ensures unparalleled consistency in product quality. From the initial raw material to the final product, every process is meticulously streamlined and optimized. This not only ensures every product meets the product performance benchmark but also significantly boosts manufacturing efficiency.

SANHE's new plant represents a significant leap forward in manufacturing capability, reflecting our commitment to innovation and excellence. With this facility, we are poised to deliver superior products that meet the highest standards of performance and reliability, more efficiently than ever before.



Q&T Advantage

A standout feature of SANHE's KD and KH sucker rods are their superior manufacturing process. Unlike most other similar products on the market, which are normalized and tempered, KD & KH undergo a quenching and tempering process.

This process results in an interlocking martensitic grain structure. Compared to the pearlite or ferrite grain structures produced by the normalized and tempered heat treatment process, SANHE's quenched and tempered sucker rod products offers significantly better fatigue resistance, especially in corrosive environment.

The quenching and tempering (Q&T) process produces superior products, but it requires meticulous control to ensure optimal results. With over 20 years of experience in Q&T, we have perfected this manufacturing process. Our KD product has consistently proven to excel in the most challenging well conditions.



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