



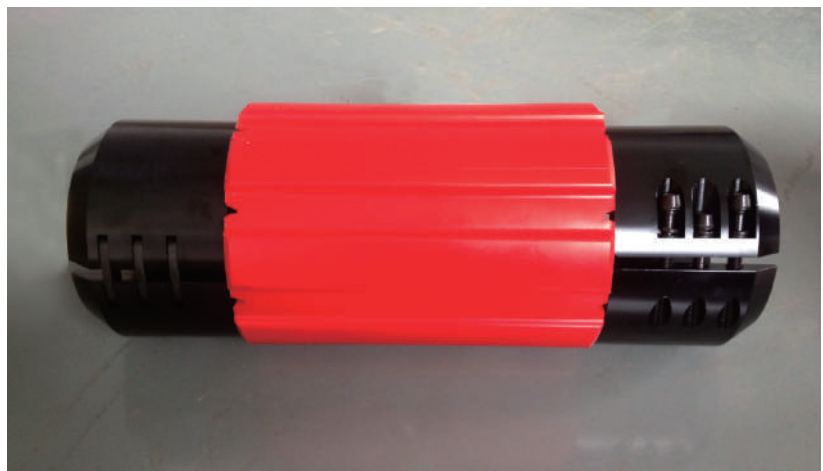
PRODUCTS

Anti-wear Protector

Simple installation and operation
Reliable performance
Remarkable results

Synopsis of product

The product is a casing anti-wear tool, applied to a drill pipe, that is composed of a set of clamps and a pair of wear-resistant sleeve bodies. It is widely used in the protection of casings in deep wells, high temperature wells, and large displacement wells. Its main features are simple installation and operation, reliable performance, and remarkable results.



Items

AWP-S type					
Type	3-1/2"	4"	4-1/2"	5"	5-1/2"
Size	3-1/2"	4"	4-1/2"	5"	5-1/2"
Element OD	5-1/2"	5-7/8"	6-3/4"	7-1/4"	7-3/4"
CLAMP OD	5"	5-1/2"	6"	6-1/2"	7"
Element length	10"	10"	10"	9-1/2"	10"
Total length	20"	20"	20"	19-1/2"	20"
Torque load	2,200 lbs	2,200 lbs	3,000 lbs	3,000 lbs	3,000 lbs

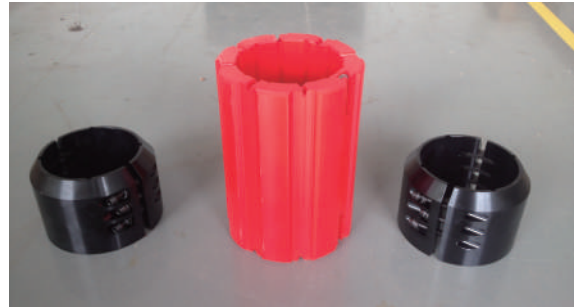
TFA					
5-1/2" Casing	N/R	N/R	N/R	N/R	N/R
7" Casing	7.8 in. ²	N/R	N/R	N/R	N/R
9-5/8" Casing	36.5 in. ²	35 in. ²	26 in. ²	20 in. ²	15.3 in. ²
13-3/8" Casing	98.5 in. ²	97 in. ²	88 in. ²	82 in. ²	76 in. ²
Clamp material	6061-T651 Aluminium alloyforging				
Element material	Polyurethane				
Temperature limit	230° F (110° C)				

AWP-HT			
Type	3-1/2"	5"	5-1/2"
Size	3-1/2"	5"	5-1/2"
Element OD	5-1/2"	7-1/4"	7-3/4"
Clamp OD	5"	6-1/2"	7"
Element length	10"	9-1/2"	10"
Total length	20"	19-1/2"	20"
Torque load	2,200 lbs	3,000 lbs	3,000 lbs

TFA			
5-1/2" casing	N/R	N/R	N/R
7" casing	8.3 in. ²	N/R	N/R
9-5/8" casing	37 in. ²	18 in. ²	16.3 in. ²
13-3/8" casing	99 in. ²	78 in. ²	77 in. ²
Clamp material	6061-T651 aluminium alloyforging		
Element material	HNBR		
Temperature limit	300° F (149° C)		

Structure

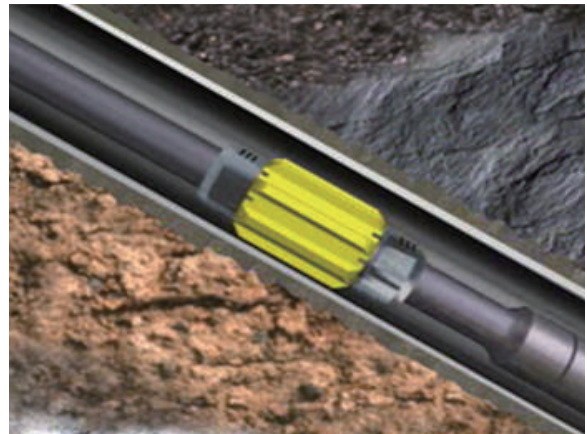
This product is mainly composed of three parts: two clamps (black in the figure), and a body (red in the figure). The flexible body is wrapped around the drill pipe and secured with a long pin. The clamps are hinged and secured to the drill pipe with the provided bolts.



Working Mechanism

The body of the anti-wear protector is greater than the diameter of the drill pipe to help prevent contact between the drill pipe and the casing especially along bends in the well.

The body is “free floating” between the two clamps and does not rotate with the drill pipe. These features reduce friction, prevent steel-to-steel casing wear and reduce the risk of stuck pipe in deviated wells.



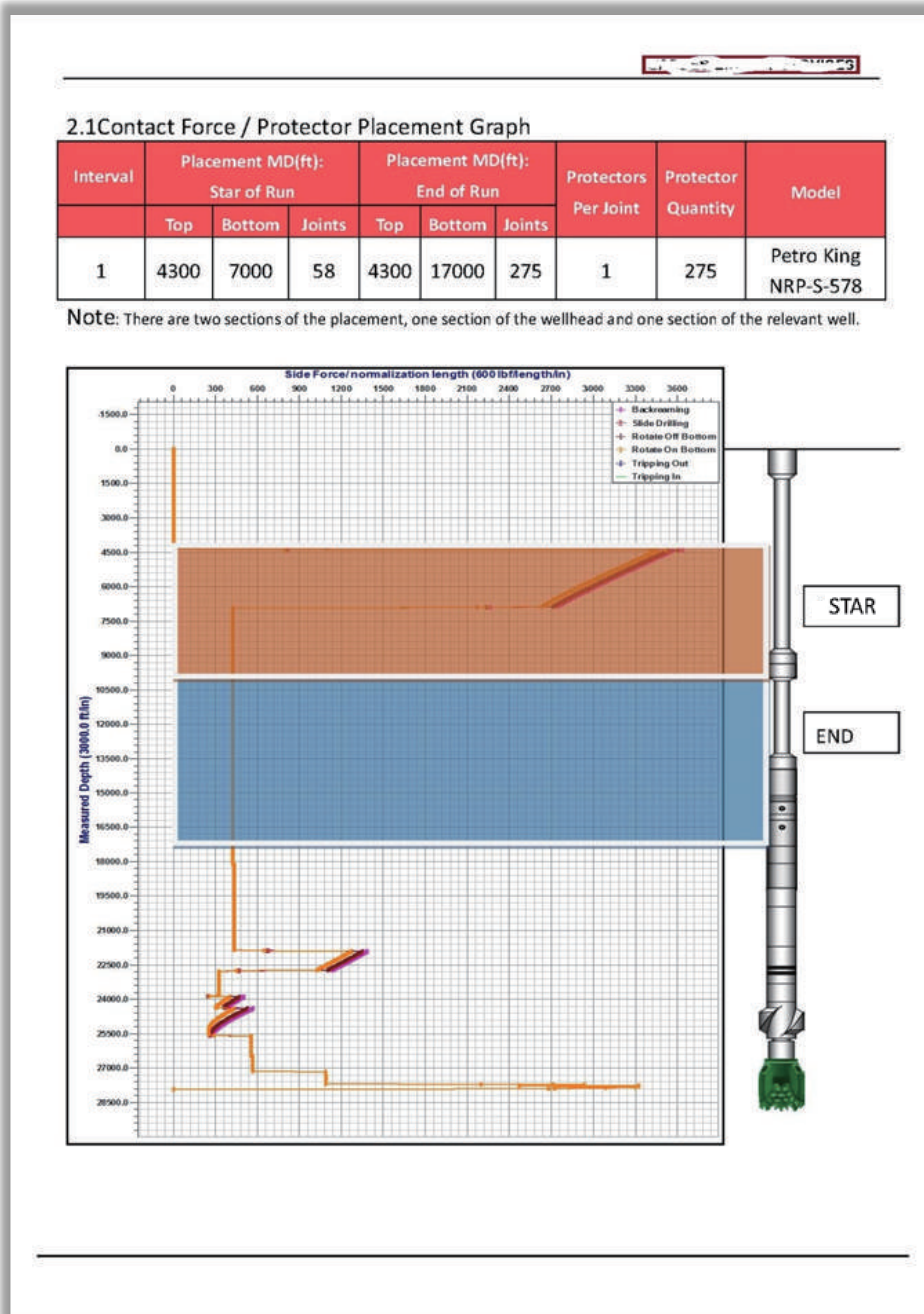
Features

- Cuts down friction, prevents wear of drill pipe and casing.
- The protective body is a special polymer material that has good wear resistance, is waterproof, is resistant to fungi, acid, alkali, and oil, is very resilient, has excellent mechanical properties, and is suitable for all kinds of mud.
- Clamp is a high-strength, lightweight, special aluminum alloy and the bolt is durable with high connection strength.
- Temperature limit (300°F).
- Rubber material has a good shock absorption effect, reducing the force between the casing and drill pipe.
- The fluid forced between the rotating pipe and the sleeve creates a “fluid cushion” between the two elements, dramatically reducing friction.
- Each AWP assembly only weighs about 6-1/2 lbs. making it easy to transport, install, and remove.
- The body can withstand 30,000 lbs.



Case Study

Application of a 5-7/8" anti-wear protector for a deepwater, large-displacement well in Ewing Banks 789, Gulf of Mexico, USA.





PETROLSTAR TOOLS AND SERVICES INC.

To find out more about our Anti-wear Protector,
contact us or visit www.petrostartools.com.