

18-3/4"-5000 psi Low Temperature Annular Packing Element Subassembly

18-3/4"-5000 psi D/DL Annular BOP

Subject

18-3/4"-5000 psi Low Temperature Annular Packing Element Subassembly for the CAMERON® 18-3/4"-5000 psi D/DL Annular BOP.

Purpose

To provide information on the availability and capability of an improved low temperature 18-3/4"-5000 psi Packing Element Subassembly for the CAMERON 18-3/4"-5000 psi type D/DL Annular BOP. The packing element subassembly consists of the annular packer and donut.

Details

The 18-3/4"-5000 psi packing element subassembly P/N 2231480-09-00-01 is identical in configuration to the previous annular packing element subassembly P/N 644856-09-00-01 except that both the packer and donut on the improved subassembly are molded from an improved nitrile elastomer compound capable of operating down to 36 °F (2 °C). The other operating characteristics of the improved packing element subassembly are identical to the original. A comparison of the original and improved packing element subassemblies is as follows:

	ORIGINAL	IMPROVED
PART NUMBER	644856-09-00-01	2231480-09-00-01
ELASTOMER SPEC	MS-1060	MS-1138
COMPOUND NO.	M1-52	M1-79

The improved packing element subassembly has successfully completed the API 16A 2nd Edition Fatigue Test, Low Temperature Verification Test, and Cameron's Low Temperature Drift Test.

The API Fatigue test consists of 364 closures on 5" drill pipe and 52 full rated pressure tests. The pressure tests are conducted after every seventh closure. Prior to conducting the API Fatigue test, the packing element subassembly is subjected to an API 16A certification test consisting closure on open hole and pressure tested to one half of rated pressure (2500 psi), full rated pressure test on a 5" drill pipe mandrel, and a drift test to verify the packing element will fully open to pass an 18.720" OD drift within 30 minutes. Every new packing element subassembly is subjected to the API Certification Test prior to shipment to our customers.

The API 16A Low Temperature Verification Test consisted of three low pressure (200 to 300 psi) and three full rated pressure tests (5000 psi) starting at the low temperature of 36 °F. BOP operating system pressure used for this test was 2000 psi.

Upon completion of the Low Temperature Verification Test and while the BOP and packer were still cold, the 5" pipe mandrel was removed from the BOP and the drift test was conducted using an 18.720" OD drift.

The packer drifted in 10 minutes and 45 seconds. A second drift test was conducted after three additional pressure tests. Results of this test indicated the packer was able to drift in 6 minutes and 50 seconds. The drift test requires that the packer pass the drift within 30 minutes of packer opening.



18-3/4"-5000 psi D/DL Annular Packing
Element Subassembly After Cold Test



18-3/4"-5000 psi D/DL Annular
BOP In Ice Prior to Cold Test

The improved packing element subassembly
P/N 2231480-09-00-01 replaces the original P/N
644856-09-00-01.

For additional information contact your local Cameron
representative or nearest CAMSERV™ facility.