



2.750 in. HERO® PerFRAC

0.34 in. EH, HMX, PFC-2717-434

TECHNICAL INFORMATION:

APPLICATION:

HERO®PerFRAC charges are specifically designed to have consistent entry hole sizes, regardless of gun position, to improve the efficiency of fracturing operations in today's unconventional reservoirs.

SPECIFICATIONS:

NET EXPLOSIVE WEIGHT:

16.8 grams

TOTAL CHARGE WEIGHT:

154 grams

TEMPERATURE RATING:

400°F - 1 hour
335°F - 24 hours
310°F - 100 hours

PACKAGING:

QUANTITY PER BOX:

50

NET ITEM WEIGHT:

840 grams

NET CHARGE WEIGHT:

7700 grams

TOTAL PACKAGE WEIGHT:

8200 grams

BOX DIMENSIONS:

14 in. W x 14 in. L x 9 in. D

SHELF LIFE:

5 years (left in original packaging)

PACKAGE TYPE:

Charges in foil bag with desiccant; inside cardboard box with cardboard spacers

SHIPPING:

CLASSIFICATION:

1.4D

DOT NUMBER:

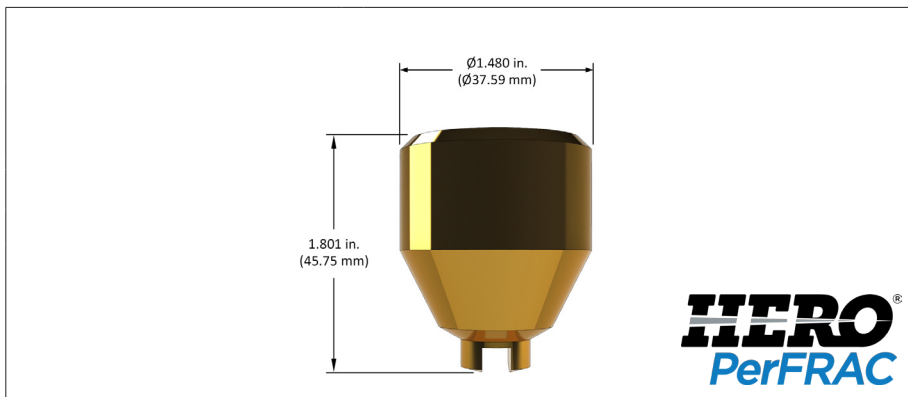
EX1994050290

CE NUMBER:

00 80.EXP.01.0032

UN NUMBER:

UN0440



HOLE SIZE DATA:

CASING	SHOT DENSITY / PHASING	AVG. HOLE SIZE (IN.)	MIN. HOLE SIZE (IN.)	MAX. HOLE SIZE (IN.)	HOLE VARIATION (STDEV)
4.50 in. 11.6# P-110	6 spf / 60°	0.34	0.32	0.36	4.0%
4.50 in. 13.5# P-110	6 spf / 60°	0.34	0.32	0.35	3.1%
5.50 in. 20# P-110	6 spf / 60°	0.31	0.25	0.34	10.6%

PENETRATION DATA - API RP-19B SECTION 2:

FORMATION CORE TYPE	PENETRATION (IN.)	OVERBURDEN (PSI)	UCS (PSI)	POROSITY
Berea	10.44	9,500	6,152	20.2%
Shale	6.87	9,500	19,838	6.0%

SYSTEM TESTED:

2.75 in. 6spf 60° in 4.5 in. 11.6# P-110

DEBRIS DATA - API RP-19B SECTION 5:

Weight of debris lost at detonation	52.87 grams per linear foot
Total weight of debris lost	122.56 grams per linear foot
Volume of total debris lost	65.51 cm ³ per linear foot

GUN SWELL DATA - API RP-19B SECTION 6:

AIR (IN.)	FLUID (IN.)
2.95 (4spf)	2.98 (6spf)