



2.750 in. HERO® PerFRAC 0.30 in. EH, HMX, PFC-2716-430

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:

16.0 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:

800 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:

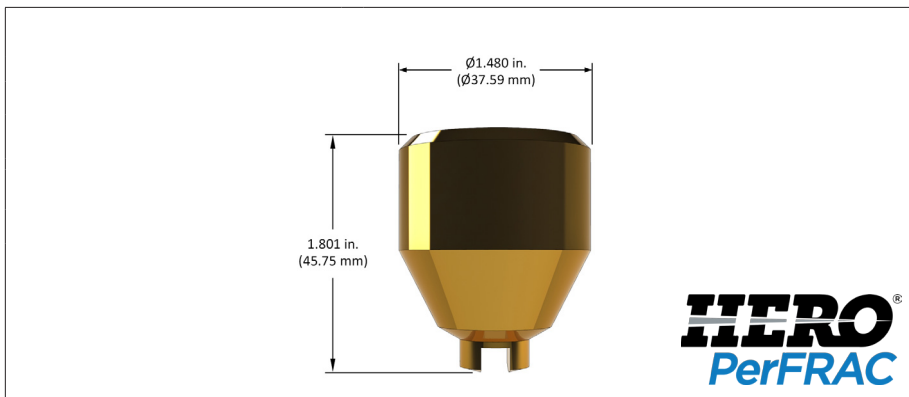
Not currently CE certified

UN NUMBER:

UN0440

PROPER SHIPPING NAME:

CHARGES, SHAPED



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°	0.30	0.28	0.31	3.9%
4.50 in. 13.5# P-110	6 spf / 60°	0.30	0.27	0.31	5.1%
4.50 in. 15.1# P-110	4 spf / 60°	0.30	0.27	0.32	5.5%
5.50 in. 17# P-110	6 spf / 60°	0.28	0.24	0.31	8.8%
5.50 in. 23# P-110	6 spf / 60°	0.29	0.26	0.31	6.0%

PENETRATION DATA - API RP-19B SECTION 2:

FORMATION CORE TYPE	PENETRATION (IN.)	OVERBURDEN (PSI)	UCS (PSI)	POROSITY
Berea	8.63	9,500	4,862	20.1%
Shale	5.63	9,500	19,838	6.0%

SYSTEM TESTED:

2.750 in. 6 spf 60° in 4.50 in. 11.6# P-110

DEBRIS DATA - API RP-19B SECTION 5:

Weight of debris lost at detonation 105.33 grams per linear foot
Total weight of debris lost 177.33 grams per linear foot
Volume of total debris lost 93.41 cm³ per linear foot

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

AIR (IN.)	FLUID (IN.)
2.94 (4 spf)	2.92 (6 spf)