



के० ख० एवं ई० अ० सं० परीक्षण प्रयोगशाला - CIMFR TESTING CELL
केन्द्रीय खनन एवं ईंधन अनुसंधान संस्थान
(विज्ञानिक प्रयोग परीक्षण प्रयोगशाला परिषद)

CENTRAL INSTITUTE OF MINING AND FUEL RESEARCH
FORMERLY : CENTRAL MINING RESEARCH INSTITUTE
(COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH)
बरवा रोड, धनबाद-826015 (भारत) - BARWA ROAD, DHANBAD-826015 (INDIA)
परीक्षण प्रमाण पत्र - TEST CERTIFICATE

FORMAT NO.: (CIMFR: DQM: FLP02: F-01:REV-01)
(Flame & Explosion Laboratory)

Prototype Report No.: CIMFR/TC/P/77 Dated: 18 June, 2015
Equipment ID NO. 130B/14 Code No. FLP/284B/13-14
Application Ref. No.: KES/CMRI/003 Dated: 05/12/2013

- Applicant** : M/s. KINGSLEY ENGINEERING SERVICES
K-1, 7706/1, KARMATUR CHOWKI, GIDC,
ANKLESHWAR - 393 002, BHARUCH,
GUJARAT (INDIA)
- Manufacturer** : Same as above
- Apparatus** : FLAME ARRESTER, Size: 6" (150 NB)
- Designated by** : Model No.: KES/PA/1/CS/6
- Gas Group** : Gas Group : IIB atmosphere only
- Material of construction** : In M. S. fabricated construction.
(Arrester bank and element - SS 304/SS 316)
- Approximate Weight of the empty**: 70.000 kg.
- Apparatus (Brief Description)**:

FLAME ARRESTER SIZES: Size: 6" (150 NB):

A flame arrester prevents transmission of flame from unprotected end to protected end in case of an explosion. The details of flame arrester bank (arrester bank) is give in the drawing mentioned in this report. The arrester element is constructed with perforated sheet SS 316.

Element Assembly: The arrester element assembly in SS 316 construction having two nos. of elements of width 25mm each is having two nos. elements with less than 0.5mm MESO size as detailed in the relevant drawing. The thickness of the arrester body is min. 6mm and no. of hex. bolt/nut arrester bolts for connection of flange are total 12 nos. (MS 5/8x9") and one no. 1 flame bank bolt & nut SS316 (5/8x4").

(Signature)



सीएसआईआर - के.एस.एच.ए. सं० परीक्षण प्रकोष्ठ
CSIR - CIMFR TESTING CELL



अतिरिक्त द्वितीय प्रति
TEST CERTIFICATE परीक्षण प्रमाण पत्र Additional Second Copy

FORMAT NO. FLP02: F-01: REV-01
(Flame & Explosion Laboratory)

Prototype Report No. CIMFR/TC/P/97 Dated: 18 June, 2015

ID NO.: 130B/14 CODE NO. FLP/284B/13-14

RESULT OF THE EXPLOSION TEST FOR FLAME ARRESTOR

Date of Test: 11/02/2015

Gas mixture used for testing: 37% Hydrogen in air for Gas Group IIB as per IS/IEC 60079-1: 2007.

Explosion Test: The tests were conducted on the above flame arresters as per clause 11.1 of IS 11006-1984.

No. of Tests: The explosion tests were conducted five times with fresh gas mixture each time by igniting the gas mixture by low energy spark plug/fuse.

Test Results: In each test it was found that the explosive mixture present in the test pipeline at the protected side was not ignited. Hence explosion occurred on the unprotected side was unable to travel to the protected side of the test pipeline through the flame-arrestor.

Test reference nos. of Explosion Test for Flame Arrestors as follows :

Arrestor Size	Test Ref. Nos.	Gas Group	Gas Mixture % in Air	No. of Test	Result
(150 NB)	EIT/130B01 to EIT/130B05	IIB	37 % Hydrogen	Five	Pass

Conclusion: The above FLAME ARRESTER, Size: 6" (150 NB) in M.S. fabricated construction designated by Model No.: KES/FA/1/CS/6, under reference meets the test requirement of clause no. 11.1 of IS: 11006-1984 for use in Gas Group IIB atmosphere only.

Reported By

Approved By

Navin Kumar

A. K. Singh
A. K. SINGH
Head of the Department

(NAVIN KUMAR)
Technical Officer

Dated: 11th June, 2015
Flame & Explosion Laboratory
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ATTESTED
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Date: 3 JAN 2018