

TECHNICAL DATA SHEET

FANEL DUAL

Generic Name by SUCAMEC: NON-ELECTRIC DETONATOR

DESCRIPTION AND COMPOSITION:

FANEL DUAL is a non-electric initiation system that was developed for underground mining and civil works. Its main characteristic is to remove the necessity of keeping and storing several delay times, which allows the user to reduce costs.

FANEL DUAL consists of the following components:

- **Surface Detonator:** It is assembled to one end of the Fanel Shock Tube, with a mushroom-type plastic block and a delay element in Detonator No. 3.
- **In-Hole Detonator:** It is assembled to the other end of the Fanel Shock Tube, with a delay element in Detonator No. 12.
- **Fanel Shock Tube:** Manufactured with high mechanical resistance thermoplastic materials, and uniformly coated inside with a reactive substance that when activated carries a shock wave, with the enough pressure and temperature as to initiate the Delay Detonator.
- **Label:** It indicates the delay time in milliseconds. The delay time of the In-Hole Detonator is shown first, followed by that of the surface Detonator. Additionally, we have a bar code that allows the traceability of the product.
- **“Mushroom-type” plastic connector:** This is a plastic block, specially designed for facilitating connection and ensuring contact between the Fanel Shock Tube and the Surface Detonator, allowing the assembly of up to 6 shock tubes.


USES:

FANEL DUAL is used preferably in surface mining, with the following advantages:

- Easy and fast mooring of the detonation mesh.
- Reduced inventory costs.
- Low noise level during detonation.

The handling temperature range of the FANEL DUAL is from -10°C up to 35°C. For different temperatures it is recommended to contact the Technical Assistance area.

TECHNICAL CHARACTERISTICS:

- **SURFACE DETONATOR**

	UNIT	FANEL DUAL
Diameter	mm	7.3
Length	mm	60
Esopo Test, Drilling Diameter	mm	Min. 4.0
Trauzl Volume	cm ³	Min. 2.0
Resistance to Impact 2 kg/1m	---	It does not detonate

- IN HOLE DETONATOR**

	UNIT	FANEL DUAL
Diameter	mm	7.3
Length	mm	68 / 88
Esopo Test, Drilling Diameter	mm	Min. 11.0
Trauzl Volume	cm ³	Min. 34.0
Resistance to Impact 2 kg/1m	---	It does not detonate

- FANEL SHOCK TUBE**

	UNIT	FANEL DUAL
Material	---	Flexible and great mechanical resistance thermoplastic
Diameter	mm	3.3 ± 0.2
Length	m	Variable
Color	---	Red - Orange
Wave Velocity	m/s	2 000 ± 200

- LABEL**

	UNIT	FANEL DUAL
Material	---	Plastic
Font color	---	Black
Background color	---	White

The values expressed are results at normal conditions (20°C and 1 atm.)

- “MUSHROOM-TYPE” PLASTIC CONNECTOR**

		FANEL DUAL
Material		Plastic
Plastic Block Color	17 ms	Beige
	25 ms	Red
	35 ms	Green
	42 ms	Light Blue
	50 ms	Blue
	65 ms	White
	75 ms	White
	100 ms	Magenta
	109 ms	Magenta
	150 ms	Orange
	200 ms	Yellow
	300 ms	Black

DELAY NOMINAL TIME SCALE

SURFACE DETONATOR (milliseconds)	IN HOLE DETONATOR (milliseconds)
17	300
25	350
35	400
42	450
50	500
65	600
75	700
100	800
109	900
150	1000
200	4000
300	

PACKAGING:
Packaging 1.1B

	BOX MATERIAL	BOX CAPACITY (Pcs.)	NET WEIGHT (Kg)	GROSS WEIGHT (Kg)	OUTER DIMENSIONS (cm)
FANEL DUAL 12.0 m	Cardboard	50	5.7	6.5	56.0 x 30.5 x 18.0
FANEL DUAL 14.0 m	Cardboard	40	5.2	6.0	56.0 x 30.5 x 18.0
FANEL DUAL 17.0 m	Cardboard	35	5.2	6.0	56.0 x 30.5 x 18.0
FANEL DUAL 23.0 m	Cardboard	30	6.2	7.0	56.0 x 30.5 x 18.0

Packaging 1.4B (*)

	BOX MATERIAL	BOX CAPACITY (Pcs.)	NET WEIGHT (Kg)	GROSS WEIGHT (Kg)	OUTER DIMENSIONS (cm)
FANEL DUAL 12.0 m	Cardboard	80	10.0	15.5	66.5 x 33.5 x 32.5
FANEL DUAL 14.0 m	Cardboard	70	9.4	14.9	66.5 x 33.5 x 32.5

(*) DOT approved packaging (EX2002060238).

TRANSPORT:

 Class : 1
 Division : 1.1B
 UN No. : 0360

 Class : 1
 Division : 1.4B
 UN No. : 0361


STORAGE AND WARRANTY:

FANEL DUAL should be stored in magazines at **temperatures between 0°C and 30°C**, located in safe, well ventilated, dry areas, protected from rain and heat. Also, the explosive inventory should be rotated, avoiding the use of new materials before using old ones. And it must be stored according to the current compatibility table of the relevant authority.

FANEL DUAL kept in its original packaging and stored in the above mentioned temperature conditions has a **warranty period of 12 months** after its production date.

WARNING:

FAMESA EXPLOSIVOS S.A.C. has safe products, but they may become dangerous elements in inexperienced hands.

The purchaser or user must comply with the applicable regulations during transport, storage and use, as well as train duly all its personnel involved in its loading and handling, providing mechanical aids for loads over 25 kg per person.

FAMESA EXPLOSIVOS S.A.C. assumes no liability for transport, storage and/or improper use their products may experience.

The information and recommendation described in this document do not necessarily cover all product applications nor the different conditions under which it is being used. These are based on the experience, research and tests done by Famesa Explosivos S.A.C., who does not guarantee favorable results nor assume any responsibility, expressed or implied, in relation to the use of these suggestions. This product may be changed without prior notice.