

**TECHNICAL DATA SHEET**

# FANEL CTD

**Generic Name by SUCAMEC:** NON-ELECTRIC DETONATOR

**DESCRIPTION AND COMPOSITION:**

The FANEL CTD is an initiation system used to delay drill holes and is composed of a delay detonator assembled to the Fanel Shock Tube and inserted inside a plastic block, similar to the one used by the Fanel Dual, where up to six Fanel Shock Tubes can be housed.

FANEL CTD consists of the following components:

- **Delay Detonator:** It consists of a detonator No. 3 containing a very sensitive primary explosive, a secondary one of high explosive power and a delay element according to its number. Finally, it is assembled at one of the ends of the Fanel Shock Tube and is inserted inside a "mushroom" type plastic block.
- **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. One of its ends is ultrasonically sealed and the other end is assembled to the Delay Detonator.
- **Label:** It is located at the end of the shock tube and indicates the delay time in milliseconds. Additionally, we have a bar code that allows the traceability of the product.
- **"Mushroom-type" plastic connector:** It is a plastic block specially designed to facilitate the connection and ensure contact between the delay detonator and the Fanel Shock Tubes. This element allows the assembly of several shock tubes.


**USES:**

FANEL CTD is a nonelectric initiation system that has been developed for use in a variety of surface and underground blasting applications. The FANEL CTD delay system is used to connect downlines and trunk lines, providing the required delay time in firing.

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

**TECHNICAL CHARACTERISTICS:**

- **DELAY DETONATOR**

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

- **FANEL SHOCK TUBE**

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

- LABEL**

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

- “MUSHROOM-TYPE” PLASTIC CONNECTOR**

		FANEL CTD
Material		Plastic
Plastic Block Color	0 ms	Lead
	9 ms	Pink
	17 ms	Beige
	25 ms	Red
	35 ms	Green
	42 ms	Light Blue
	50 ms	Blue
	65 ms	White
	67 ms	White
	75 ms	White
	100 ms	Magenta
	109 ms	Magenta
	150 ms	Orange
	200 ms	Yellow
300 ms	Black	

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

**DELAY NOMINAL TIME SCALE**

DELAY TIME (milliseconds)
0
9
17
25
35*
42*
50
65**
67**
75**
100***
109***
150
200
300

(\*) Not recommended for use in the same blast with 35 ms or 42 ms.

(\*\*) Not recommended for use in the same blast with 65 ms, 67 ms and 75 ms.

(\*\*\*) Not recommended for use in the same blast with 100 ms and 109 ms.

**PACKAGING:**
**Packaging 1.1B**

	BOX MATERIAL	BOX CAPACITY (Pcs.)	NET WEIGHT (Kg)	GROSS WEIGHT (Kg)	OUTER DIMENSIONS (cm)
FANEL CTD 4,0 m	Cardboard	120	6.0	6.8	56.0 x 30.5 x 18.0
FANEL CTD 5.0 m	Cardboard	100	5.6	6.4	56.0 x 30.5 x 18.0
FANEL CTD 6.0 m	Cardboard	100	6.3	7.1	56.0 x 30.5 x 18.0
FANEL CTD 8.0 m	Cardboard	80	6.2	7.0	56.0 x 30.5 x 18.0
FANEL CTD 9.0 m	Cardboard	70	5.9	6.7	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 CTD 9.0 m	Cardboard	80	7.2	12.7	66.5 x 33.5 x 32.5

(\*) DOT approved packaging (EX2002060238A).

**TRANSPORT:**

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



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

**STORAGE AND WARRANTY:**

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FANEL CTD 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 CTD 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:**

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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.