

EXTECH

(EXPLOSIVES DIVISION)

P.O. BOX 484

BOOVAL

QLD. 4304.

AUSTRALIA.

PH: 07 3288 7288 Fax: 07 3288 7555 Email: extec@bigpond.net.au

TECHNICAL DATA SHEET

‘Crackerjack’

High Range Soundless Cracking Agent

CHARACTERISTICS OF HSCA

HSCA is a non-combustible and non-explosive demolition material. It is safe and easy to use and requires no special permits or license for transportation, storage or use.

HSCA is a silent demolition agent that does not cause any Vibration, Noise, Fly rock, ash or hazardous gas during demolition.

Demolition and cutting is achieved based on drill patterns. ‘Crackerjack, HSCA can gain a high yield for mining of granite, marble etc. It is very easy to crack & contain reinforced concrete structures on demand during demolition. Easy to use at job sites.

TYPES AND PROPERTLES OF HSCA

A. Depending on rock type temperature, there are three types of HSCA available.

TYPES	USABLE TEMPERATURE(°C)
HSCA-I (Summer)	25-40
HSCA-II (Spring & Autumn)	10-25
HSCA-III (Winter)	-5 -10

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B. HSCA is a kind of inorganic material consisted of calcium, silicon, iron and aluminum in the form of powder.

C. The expansive pressure of HSCA

The HSCA slurry should be poured into holes drilled into rock or concrete. The expansive pressure can be achieved in the holes in 48-72 hours after filling, making various rock types & concrete crack. The cracks further spread and become wider and wider with time so as to enable rocks to be removed by hand or mechanical means.

D. HSCA products are packed in either 20kg moisture proof boxes with each box containing four plastic bags, each of which holds 5kg HSCA powder, or 25kg Outer bags that contains five plastic bags, each of which holds 5kg HSCA powder. HSCA should be kept dry to maintain shelf life.

CRACKING DESIGN OF HSCA

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Hole diameter and hole spacing

Hole diameter 30-50mm

Hole spacing should be in accordance with the following formula.

$$A=KD$$

Where A = hole space (mm)

D = diameter (mm)

K = cracking coefficient

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K VALUE OF ROCKS AND CONCRETE

MATERIALS TO BE CRACKED	K	STEEL CONTAIN(kg/m ³)
SOFT VIRGIN ROCKS	10-16	ii
MIDDLE HARD VIRGIN ROCKS	8-12	ii
HARD VIRGIN ROCKS	5-10	ii
PLAIN CONCRETE	10-16	0-30
REINFORCED CONCRETE	8-10	30-60
	6-8	60-100

K value will change along with the geometry of rock & concrete

the less free surface, the smaller K value

the more free surface, the bigger K value

The hole depth and the height of rocks and concrete are in proportion as 80-100%

UNIT CONSUMPTION OF HSCA

MATERIALS TO CRACKED	HSCA USED(kg/m ³)
SOFT HARDLE VIRGIN ROCKS	8-10
MIDDLE HARDLE VIRGIN ROCKS	10-12
HARD VIRGIN ROCKS	12-20
POCKS CUTTING	5-15
PLAIN CONCRETE	8-10
PEINFORCED CONCRETE	15-25

Reference consumption of HSCA when hold depth is one meter

HOLE DIAMETER(mm)	30	32	34	36	38	40	42	44	46	48	50
CONSUMPTION(kg/lineal metre)	1.2	1.3	1.5	1.7	1.9	2.1	2.3	2.5	2.8	3.0	3.2

OPERATION OF HSCA AT JOB SITE

DRILLING HOLES

A. DRILLING:

Drill hole with air drill according to drill pattern design.

B. MIXING DEVICES:

A small amount of HSCA can be mixed by hand, ensuring the use of rubber gloves, and all PPE

Although a mechanical mixer is recommended. (e.g. Air drill with stirrer)

C: EQUIPMENT REQUIRED:

10-20 Litre plastic or metal bucket or barrel, Mechanical stirrer, Measuring water devices, Dust mask, Rubber gloves, protective glasses./ Face Shield

D: MIXING:

Pour about 1.5litre clean water into a container and add one bag of HSCA slowly (pour water 30% of HSCA by weight) then mix well with a mixer until it becomes a slurry of good fluidity.

E. FILLING:

HSCA slurry should be poured directly into hole within 10 minutes after mixing. For horizontal holes, a grouting pump and a plug for stopping up are required, or fill the holes with thick paste of HSCA.

CRACKING

A. Cracking and cutting time:

The cracks appear in 48-72 hours after filling, depending on air temperature of rocks and concrete. The cracks further spread and become wider and wider with time.

B. Safety Points for Attention:

*** Protective glasses and all PPE must be used when handling HSCA.

*** **‘DO NOT LOOK’** closely or directly at, or stand over at any hole after loading in case hole **‘blow off’** occurs.

***(**‘Blow off’** can occur if HSCA is mixed at temperatures that are too high, Rock temperatures are too high, or hole size is unsuitable.)

*** Keep dry in storage.

*** Ensure the correct type of HSCA product is selected for use which is suitable to working temperature.