

Convenient for Horizontal Hole and Upward Hole, Underwater Demolition Work, etc.

HOW TO USE BRISTAR PACK

1. KINDS OF AND HOW TO SELECT BRISTAR

Kind	Temperature of material to be cracked				Water temperature
	Maximum allowable temperature	Applicable temperature range	Delay of cracking time	Season	
Bristar Pack 100	35°C	35 ~ 15°C	Below 15°C	Summer	Below 30°C
Bristar Pack 150	20°C	20 ~ 10°C	Below 10°C	Spring & autumn	Below 15°C
Bristar Pack 200	15°C	15 ~ 5°C	Below 5°C	Winter	Below 10°C
Bristar Pack 300	5°C	5 ~ -5°C	Below -5°C	For cold region	Below 5°C

Cartridge (Diameter x Length)	Weight of cartridge
32 mm x 220 mm	300 g

1 Box	18 kg (60 cartridges)	15 cartridges/pack x 4 packs
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Four kinds of BRISTAR PACKS. Select the best pack depending upon the work condition or air temperature.

2. HOLE DIAMETER

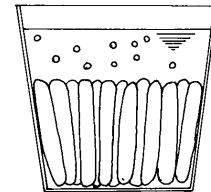
The bit diameter of the drilling machine should be 36 ~ 44 mm.

3. HOW TO USE BRISTAR PACKS

(1) Dip BRISTAR PACKS into Water

Pouring fresh water into a container of about 20 ℓ like bucket or others, dip some BRISTAR PACKS into it to have them absorbed water until no bubble comes out (for 4 ~ 5 minutes).

- The number of BRISTAR PACKS is to be limited within 15 packs per dip.
- Change water so as to cause no rise of water temperature, from time to time.
- Fill a hole with them within 10 minutes after dipping into water.



(2) How to Fill BRISTAR PACKS

Fill a hole with BRISTAR PACKS, tamping in one after another each for several times with a fill up to the entrance of the hole.

- Fill a hole after another with BRISTAR PACKS.
- Use a sticker of smaller by 4 ~ 5 mm in diameter than the hole diameter.

4. NUMBER OF BRISTAR PACKS TO BE USED PAR HOLE

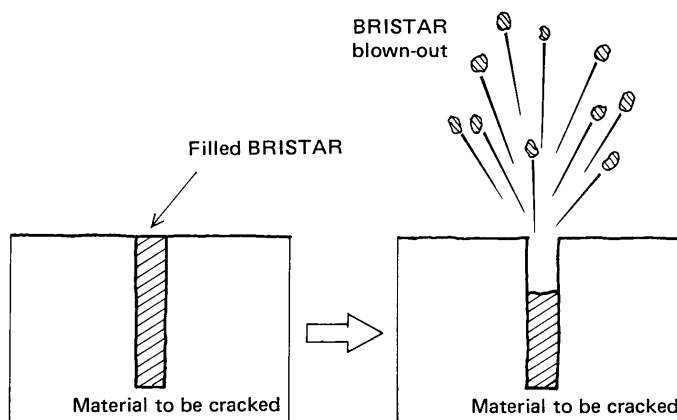
The number of BRISTAR PACKS to be used per 1 m long hole is as follows.

Hole diameter (mm)	38	40	42	44	46
Quantity to be used (kg/m)	1.9	2.1	2.3	2.5	2.8
No. of packs (parcel)	6.3	7.0	7.7	8.3	9.3

CAUTION

BRISTAR will cause a blown-out phenomenon, if the application conditions are mistaken. In addition, although BRISTAR is inorganic without toxicant, but rich in alkalinity (pH12 ~ 13). If some get into your eyes, this may cause your sight lost. Strictly adhere the following precautions.

- (1) Never apply them in excess of maximum allowable temperature and the upper limit of hole diameters, as specified depending upon the kinds.
(See the table in the manual of "How to use BRISTAR PACK.")
- (2) Always wear the safety goggles and rubber gloves for working out the BRISTAR dipping, filling and sheet covering.
- (3) Always limit the number of dipping BRISTAR PACKS up to 15 packs per dip. No hot water should be used for dipping.
- (4) Never fail to apply dipped BRISTAR PACKS within 10 minutes after dipping them. (Note that a blown-out phenomenon may happen to occur, if they are kept in a container after dipping.)
- (5) Cover up the filled holes with a sheet immediately after filling of BRISTAR PACKS. Do not look directly into any holes for at least 10 hours (until a crack occurs) after filling.
- (6) Always avoid any BRISTAR filled holes from covering up with gravels. Never fill into a bottle or can with BRISTAR (this is dangerous to explode it).
- (7) The sign "all unauthorized personnel are prohibited to enter in" or other measures should be taken to secure the curing zone after filling BRISTAR.
- (8) Whenever BRISTAR happens mistakenly to come into your eyes, immediately wash your eyes well with fresh water, then, go to an eye-doctor. Being in contact with skin may cause a dermatitis. In this case, immediately wash it off with water. (The major component of BRISTAR is calcium oxide.)
- (9) Always wear a dust-proofing mask, whenever working in an enclosed area (e.g., tunnel, etc.).
- (10) Applications of BRISTAR other than as specified in the catalog are not permitted.



If BRISTAR PACKS are applied in excess of the range as specified in (1), (3), (4), the blown-out phenomenon may happen to occur. The blown-out phenomenon may happen to continue for 3 ~ 4 times.