

Care of Rotor & Bed knife

For longer life of Rotor / Bed knife set, the following may be observed:

Dry cutting of chips

- 1. Inclusion of foreign material with strands:**
Only clean material should be fed through the extruder. The filters at various intervals must be periodically cleaned / replaced.
- 2. Inadvertent inclusion of separator bar while feeding strands with hand:**
Instead of steel bars (generally welding rods) only soft pointed wooden/ bakelite bar may be used for separating strands and tied properly so as not to entangle with cutter.
- 3. Insertion of cold strands in the beginning:**
While cold starting the unit, the cold bunch of strands is fed, which breaks the rotor teeth and must be avoided. The water bath tem. It to be maintained at 40 Deg. in the beginning.
- 4. Shifting of Strand guide:**
Must be checked and carried out twice in a day by maintenance engineer to discourage wear at one place on rotor / BK.
- 5. Gap adjustment between Rotor and Bed knife:**
Rotor – Bed Knife gap should be checked thoroughly as per supplier's recommendation. It is to be followed most religiously.
- 6. Old cutting Edge of Bed knife:**
Only a new edge of bed knife should be used with newly ground rotor. This is a very important precaution. Bed knives of all materials can be sharpened at our plant.
- 7. Loose Bed Knife:**
Due to constant pressure and cutting force, it must be secured nicely. All nuts and bolts should be tightened properly and locktite applied.
- 8. Bearings of correct make and specification** as recommended should be used.
- 9. Excessive vibration** whenever noticed must be corrected immediately. It could be due to many reasons.
- 10. Slipping Feed Rolls:** must be replaced immediately.

Wet cutting of chips: In addition to above points the following may also be checked for wet cutting.

- 1. Temperature of Cooling water for quenching:** Should be maintained at proper temp. within the range specified to take care of undue wear of cutting edge. Cooler will result in dust formation and heated will result in tails uncuts and dust formation. For polyester 20-27 deg. is the best quench temp.
- 2. Cross / Slant Cut:** To avoid slant cut, check the front feed and rear feed roller. The gap must be uniform. Please check feed roller bearings, pneumatic pistons, its internal parts etc. A uniform pressure on front feed roller must be there. Worn out / Slipping roller must be replaced.
- 3. Tails / Uncuts :** Could be due to higher temperature of cooling water OR blunt cutters and Stationary knife. Please take full care to install new / freshly sharpened rotor with new / freshly sharpened bed knife. Otherwise tails may result.
- 4. Life of cutters:** Can be increased substantially / even doubled, if gap is checked more often and maintained with in closer limits as laid down by manufacturers.

Preparation of Rotor: It is advised that Rotor teeth are cleaned and honed with leather / soft wood / Nylon piece before use.

Never use Emery paper: Wrong material / method of cleaning can result in damaging the sharpness of teeth. So it must be done by only experienced workmen under expert guidance.

We invite your suggestions / comments to further this write up and make it a useful document for the practical user.

Chipping of teeth / damage to Rotor / Care of System

For longer life of Rotor / Bed knife set, the following must be prevented:

- 5. Inclusion of foreign material with strands:**
Only clean material should be fed through the extruder. The filters at various intervals must be periodically cleaned / replaced.
- 6. Inadvertent inclusion of separator bar while feeding strands with hand:**
Instead of steel bars (generally welding rods) only soft pointed wooden/ bakelite bar may be used for separating strands and tied properly so as not to entangle with cutter.
- 7. Insertion of cold strands in the beginning:**
While cold starting the unit, the cold bunch of strands is fed, which breaks the rotor teeth and must be avoided. The water bath tem. It to be maintained at 40 Deg. in the beginning.
- 8. Shifting of Strand guide:**
Must be checked and carried out twice in a day by maintenance engineer to discourage wear at one place on rotor / BK.
- 9. Gap adjustment between Rotor and Bed knife:**
Rotor – Bed Knife gap should be checked thoroughly as per supplier's recommendation. It is to be followed most religiously.
- 10. Old cutting Edge of Bed knife:**
Only a new edge of bed knife should be used with newly ground rotor. This is a very important precaution. Bed knives of all materials can be sharpened at our plant.
- 7. Loose Bed Knife:**
Due to constant pressure and cutting force, it must be secured nicely. All nuts and bolts should be tightened properly and locktite applied.
- 8. Bearings of correct make and specification** as recommended should be used.
- 9. Excessive vibration** whenever noticed must be corrected immediately. It could be due to many reasons.
- 10. Slipping Feed Rolls:** must be replaced immediately.
- 11. Cooling water for quenching:**
Should be maintained at proper temp. within the range specified to take care of undue wear of cutting edge. Cooler will result in dust formation and heated will results in tails uncuts and dust formation. For polyester 20-27 deg. is the best quench temp.
- 12. Slant Cut:** To avoid slant cut, check the front feed and rear feed roller. The gap must be uniform. Please check feed roller bearings, pneumatic pistons, its internal parts etc. A uniform pressure on front feed roller must be there.

With above DO's and Don'ts, it is expected that rotor and bed knife can last for their entire useful life. Being expensive, and dangerous due to sharp cutting edges, it is also expected that they are handled very carefully.

We invite your suggestions / comments to further this write up and make it a useful document for the practical user.