CERAMIC DEWATERING ELEMENTS IN PAPER INDUSTRY

In co-operation with the paper and cellulose manufacturers we have designed and tested various linings made of Al2O3 ceramics, such as:

1. Linings below the wire
   - forming boards
   - supports
   - dewatering foils
   - wet suction boxes
   - flat suction boxes

2. Linings below the felt (tubular suction boxes)

3. Linings of the tubular and conical cleaners

4. Pump sealing cartridges and rings

Al2O3 ceramic lining are resistant to wear and chemical attack and they maintain the working surface flatness and constantly sharp edges for a long time. By fitting these a uniform dewatering and paper sheet forming are achieved, return wash-out and longitudinal strips on the paper are avoided. Also friction is decreased (μ=0.05) and therefore a lower driving force of the machine is required; it is possible to increase the speed and extend the wire life. The linings are made of high precision segments (up to ± 0.02 mm) suitable for different fitting techniques:

- to be directly fitted onto the working plate; the shape of segments depends on the support shape, a strong and secure bond and appropriate flatness of the working surface are obtained.

- to be fitted onto the plastic strip;

- segments are connected into the dewatering foil, it is possible to carry out replacement or additional machining while running the machine by a simple action of bringing the foil down from the support below the wire.

Quality of the lining working surface depends on the paper type; surface roughness after fine grinding is Ra=0.8 µm, and after polishing is Ra=0.1-0.2 µm. High quality of the working surface is also attained by the appropriate material structure. The higher density is, i.e. better filling of the material pores by various size crystals, the better quality of the top surface of Al2O3 ceramic linings is obtained. The application of ceramic linings for the paper machines also brings the maintenance and downtime costs down, increases the machine capacity, improves the paper quality and enables the more efficient production.

**Ordering procedure:**
Please enclose technical documentation or sample of the specific product