

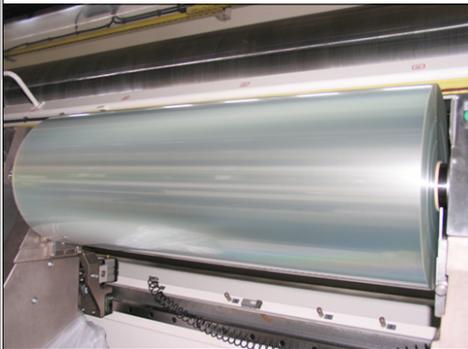
# BOPP (BI-AXIALLY ORIENTED POLYPROPYLENE) MANUFACTURING

## Lubrication for BOPP process

In a BOPP process line, there are series of rollers, chains operating in temperature ranging 140 ~160°C.

Lubrication points include: bearings of rollers in casting, MDO, TDO and final processes, chain system in the tenter frame unit, and

As the system runs at temperature around 140 ~160°C, synthetic high-temperature oil and grease are required to protect roller bearings and chains against wear.



## Chains for tenter frame unit

The chain system holds the BOPP film with clips for transverse direction orientation throughout the tenter frame unit, where temperature is maintained in between 140~160°C.

For roller chains, a synthetic high-temperature oil is recommended:

### HOTENLINK KTN 351

It is highly stable synthetic fluid with superior thermal stability which is a great advantage under high-temp situation. You won't find hard carbon residue after years with KTN 351.

Combining the thermal stability with good lubricity, good adhesion, good penetration, anti-corrosion, and low evaporation, a longer service life of the chain system can be expected.

For block type chain, it is lubricated by grease, normally maintained annually. One needs a reliable grease to work for long term under high temperature. For this Dulub offers:

### Nye UNIFLOR 4622R (-20°C ~250°C)

## Bearings of rollers and fans

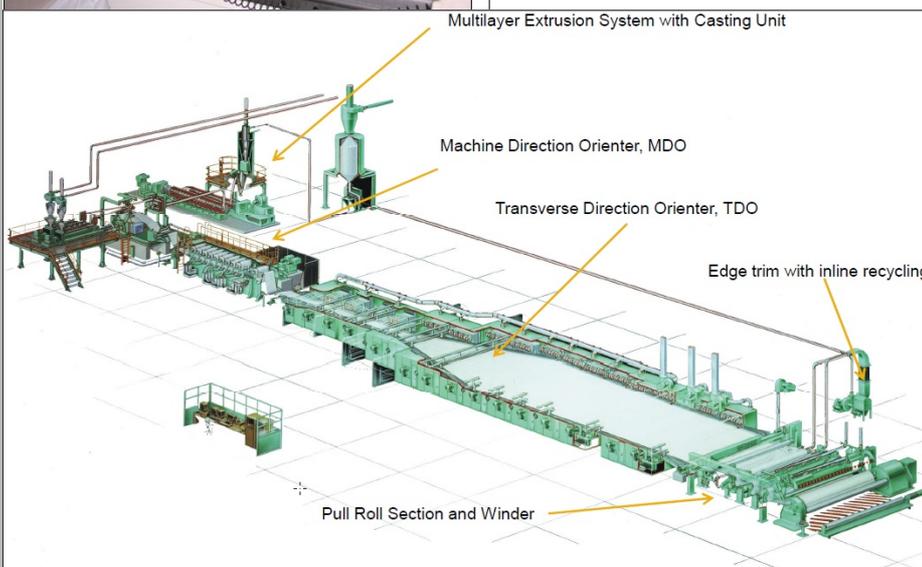
For bearings of rollers working under medium-high temperature and high speed, as well as bearings of heating fan, both high-temp thermal stability and load carrying ability need to be considered.

For this application Dulub offers:

### LAGERFETT GU 986

LAGERFETT GU 986 is a specially formulated high/low temp, high speed grease based on synthetic fluid and organic polymer.

The synthetic base offers a very good thermal stability. And due to its strong oil film, it can take high load and shows out excellent anti-wear property. The organic polymer thickener makes it very suitable against thermal stress attack. This grease is also designed for high speed applications. The long-term operating temperature range is defined as -40 to 170°C. For short / peak, 190 / 210°C is also possible. No hard residue will form after evaporation, which helps to increase the bearing service life.



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