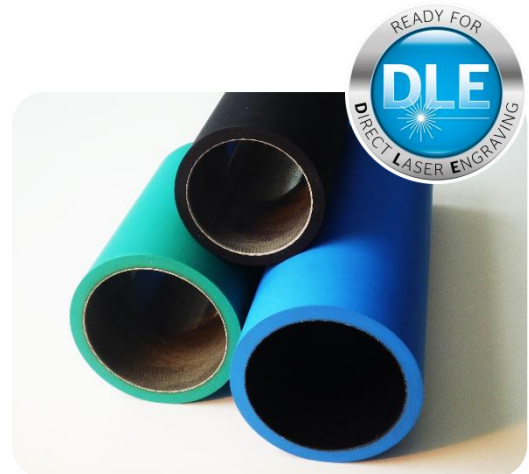


# BöttcherFlex

## DLE Sleeves

Flexo printing sleeves for Direct Laser Engraving



### Special Properties

Drawing on their extensive experience in the manufacture of Flexo sleeves for the Direct Laser Engraving (DLE) process, Böttcher engineers have developed special rubber compounds for Flexography.

The unique properties of the compounds make them ideal for Laser Engraving technology (CO<sub>2</sub>, YAG, Diode laser) as well as for the flexo printing process. For YAG and Diode laser, our black compounds are required.

Very fine structures can be engraved with a high engraving speed. Having excellent ink transfer properties, the BöttcherFlex DLE Sleeves are used in many areas of flexography, e.g. the flexible packaging market.

### General Information

Manufactured exclusively by Böttcher. The compounds are mixed in the Böttcher mixing plant, one of the most modern rubber mixing plants in the world. In our laboratory, we are able to test the chemical compatibility of the compounds with any inks and solvents that are used. In addition, also the fiberglass base sleeves are manufactured by Böttcher.

If there are any questions regarding Flexo sleeves and plates, please do not hesitate to contact us.

### Chemical resistance of standard compounds

	EPDM series	SBR series	NBR series
<b>Alcohol</b> (e.g. ethyl alcohol, isopropanol/IPA)	A	A	A
<b>Ester / Ketone</b> (e.g. ethyl acetate, MEK)	A	B	C
<b>UV ink</b>	A	B	C
<b>Water</b> (50°C/95°C, 120°F/200°F)	A	A	A
<b>Aliphatic hydrocarbon</b> (e.g. mineral oil, benzene, fatty acids)	C	C	A
<b>Aromatic hydrocarbon</b> (e.g. toluene, benzene, xylene)	C	C	C
<b>Ozone</b>	A	C	C

**A = no or little chemical attack**

**B = slight or moderate attack**

**C = strongly attacked, destroyed**

Elastomers coverings for rollers and sleeves are developed by Böttcher for the special requirements within the sector of printing and converting industry. They are characterized by particularly homogeneous surfaces, good inherent stability and high ink or media transport. To achieve an optimal result and a high shelf-life, the following care and maintenance recommendations are to be considered.

### **Transport and storage**

In order to prevent any damage, a careful transport and an appropriate storage of the rollers and/or sleeves are particularly important. The elastomer covering must be protected in the transport case and during storage against impact influences and pressure effects. While lifting and transporting the rollers or sleeves with lateral load loops, square timbers have to be used for protection of the faces of the coverings.

Placing rollers on the elastomer covering may lead by the dead weight of the roller and/or the sleeves to a lasting deformation of the roller surface. The geometrical change is reflected in deviations from the cylinder form and the radial run-out.

Rollers should be stored therefore only on the journals and not on the area of the covering. Sleeves should be stored if possible perpendicularly standing.

The covering is to be protected during longer storage against direct incident light radiation and extreme variations in temperature. A storage is optimal at a temperature between + 20 and + 30 °C. If necessary a temporary storage should take place before the use at these temperatures.

### **Chemical stability**

In all applications, the elastomer covering of a roller or a sleeve is subject to mechanical loads in the form of dynamic stress and abrasion. Beyond that, apart from the normal aging of each polymer material, it can come to a chemical strain of the covering by the contact with media (e.g. printing inks, lacquers, detergents or oils) or by environmental influences (e.g. ozone effect).

In order to find the suitable material for a certain application, mechanical and chemical stresses must be analysed. The chemical stability of an elastomer roller covering depends primarily on the used basis polymer. Each basis polymer possesses certain outstanding characteristics. Depending on the application, the emphasis of the requirements will be different and thus also the choice of the basis polymer.

For the different printing and converting processes, Böttcher offers particularly balanced covering materials.

The optimal material regarding the stability against the contact media can be determined with the help of chemical resistance tests. Böttcher offers this test free of charge to you as a special service performance.

### **Cleaning**

In order to maintain a long service life, the rollers and sleeves should be cleaned regularly with a suitable roller detergent, e.g. Böttcherin cleaning agents. In function of the roller material and kind of the pollution, balanced wash and maintenance agents must be selected.

Generally, the use of Böttcher washes and maintenance agents secure, apart from a good cleaning efficiency, the functionality of the roller covering. Böttcher offers for this a broad range and advises you gladly with the selection of the suitable cleaning product.

For the mechanical cleaning, only soft cloths should be used. May not be used in any case: wire brushes, emery paper or other sharp edged aids.

If you should have further questions around the topic rollers, sleeves or washing and maintenance agents, we advise you gladly.