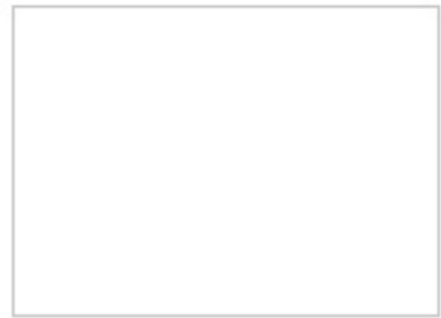




Printing and Paper Handling

[FUSER ROLLER CLEANING COMPONENTS]



Fuser roller cleaning components

Components that oil as well as clean

Most toner-based printer engines use hot rollers to fuse the latent toner image onto the paper. Schlegel offers a variety of high-performance cleaning components, which remove the toner residues that accumulate on these fuser rollers. Although some components solely have a mechanical cleaning function, most of them also dispense silicone oil.



Oil rollers:

Schlegel has developed a range of different systems for applying silicone oil on fuser rollers and to clean them.

As the fuser area operates at temperature of 200°C or above, all the materials used, have to be designed to withstand these extreme temperatures.

Aramid yarn resists high temperatures. It is used to produce a brush fabric that is wrapped around a core containing high-viscosity silicone oils. A number of different oil storage media can be used, including felt, foam, paper, ceramic foams and hollow shafts.

Constant and uniform dispensing of the oil together with a continuous cleaning action are essential to ensure these components enjoy a long service life.

Oil cleaning webs:

Your guarantee of constant cleaning and oiling. The type of non-woven material to choose depends on the type of cleaning desired, as well as the temperature range and oil dispensing required. Possible materials include nylon, polyester, aramid, Teflon and blends.

Oil webs require a more expensive machine that includes a drive mechanism. But the superb cleaning and oiling they provide is more than justified in high-volume and colour printers.

Oil pads:

Stationary high-temperature brush or velvet strips impregnated with silicone oil are used as a cost-effective, low-performance alternative.



Fuser roller cleaning components

Technical details

All components use silicone oil with minimal molecular weight fractions and an oil viscosity at ambient temperature that is typically 10,000 to 30,000 cStoke. All commercially available silicone oils start to polymerize when exposed to temperatures above 150°C for longer periods of time. Adhesive and textile materials can be selected for continuous temperatures of 250°C.

On oil rollers

- Typical diameters from 15 to 40 mm with a 2 to 3 mm fabric thickness (pile or felt)
- Oil storage capacity: 5 to 50 g or higher
- Oil storage media: aramid yarn converted into felt paper or non-woven, paper, open or closed-cell silicone foam, perforated metal tubes (with oil flow controlling barrier layers or film), ceramic foams

On oil cleaning webs

- A wide range of non-woven blends
- Thicknesses ranging from 10 to 70 µm
- Weights of 20 to 50 g/sq.m
- Oil densities from 5 to 40 g/sq.m
- Web lengths up to 100 m

On oil pads

- Aramid felts or fabrics with 5 to 10 g oil capacity
- Plastic or metal carriers

Schlegel offers you more

Schlegel brings you the benefits of extensive research on the cleaning and oiling requirements of fuser rollers. Understanding and controlling this dual function is essential to optimize the cost and service life of cleaning components.

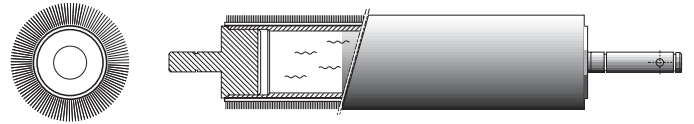


Fig. 1

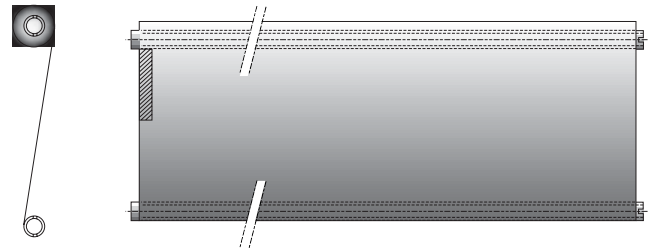


Fig. 2

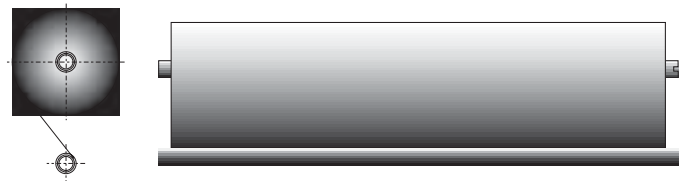


Fig. 3

Fig. 1: Oil roller with hollow steel shaft
Fig. 2 and 3: Different sizes of oil cleaning webs



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