TIPS AND TRICKS

The Blanket: Key to Good Offset Printing

THE BLANKET IS A REAL ALL-ROUNDER and lies at the heart of offset printing. It has to transfer text and graphic elements exactly from the printing plate to printing stock. An incredibly demanding task when you take a closer look at what all that involves.

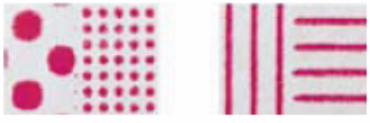
The blanket needs to be able to take on color just as well as it dispenses it. At the same time, it also has to convey dampening solution evenly. Furthermore, irregularities in thickness in the printing stock have to be evened out and it also has to serve as a kind of "damping system." Specific material characteristics are decisive in how well the printed material releases from the blanket (quick release effect), how high quality the replication is in terms of color and tone and how strongly the printed image is affected by mechanical strain.

Because of all of these requirements, Heidelberg subjected their blankets, made up of multiple layers, to intensive testing – both for surface properties (for example roughness, chemical composition) as well as "damping qualities" (compressibility). In this way, customers can be sure that Saphira blankets provide the best print quality, very smooth operation and run stability. Specific material characteristics are decisive in how well the printed material releases from the blanket (quick-release effect). They also impact the quality of the replication's color and tone and how strongly the printed image is affected by mechanical strain.

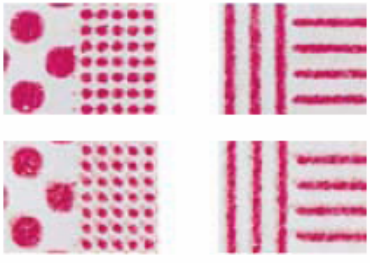
To make sure the blankets perform well, it is best to store them in their original packaging and in an upright position – cool and protected from dust and the sun's rays. They shouldn't be stored for longer than 24 months, since the material can harden and become brittle otherwise. It is advisable to clean the blankets with water before using them for the first time and then later only use approved washing agents in order not to damage the material properties.

If irregularities should nevertheless appear in the printed image and other causes have been ruled out, the following should be considered: Slur or ghosting can be due to the wrong print processing or packing, for example. Thus the run sizes on plate cylinders and blanket cylinders should be checked. A rule of thumb for the blanket cylinders: A good packing height corresponds to the height of the bearer ring (plus or minus 0.0008 inches (0.02 mm)). Packing heights can be precisely measured with the dial packing gauge from Heidelberg. It's also advisable to affix the blanket exactly using a torque wrench. If a cloudy image can't be attributed to the printing stock, flaws in the surface or construction of the blanket could be the cause. A single full-surface print without water often provides clarity. Excessive dot gain significantly higher than the process standards for offset printing could be a sign of flawed processing or packing height as well as too much pressure. Even register problems can result from interactions between blanket, ink and printing stock. Printing blankets with good quick-release effects minimize the adhesive strength and thus the negative effects on the register. A multitude of printing problems can be prevented by choosing the high quality Saphira products from Heidelberg. ■

Cross-section of a blanket (Source: I.M.C GmbH).



Good print image thanks to intact blanket.



Slur (top) and ghosting (bottom), for example due to the wrong packing height, insufficient processing and too much pressure.

Correction

In the last "Tips and Tricks" article (HN 266) the impression may have been given that the ink and dampening control test form is generally included for free during a new installation. In reality, use of the test form belongs to the standard repertoire of Heidelberg's customer-oriented range of services.

Info

Products described here may not be available in all markets. You can get further information from your local Heidelberg representative.