

## **Böttcher offers a free printing press test for its clients**

The company Böttcher has a wide portfolio of products: printing rollers, offset printing blankets, chemical products that are directed to the printing segment. We perceive the printing industry from the perspective of the individual printing technologies. Printers worldwide know our complete and compatible product system. However, as a reliable and technically recognized printing industry partner, we know that complex processes also require comprehensive support. Od Since January of this year, we offer free tests called “Böttcher Inspection Test” (BIT 19) to our customers. The test is aimed at improving the quality and efficiency of the printing process. With the BIT 19 test, the customer gets important parameters that play a significant role in the printing process. We believe that our decision is right and the clients will appreciate this form of comprehensive support - from analysis to expert advice and individual troubleshooting.

Böttcher has its own research department in Germany, where 60 researchers work, plus we have a sales network around the world where many professionals from the production are involved. The company Böttcher has a tremendous amount of know-how which it sells partially in its products to its customers, whereas we don't consider this to be a coherent concept. The intention is to give our know-how to our customers as part of the delivery. Böttcher has more than 300-year-long history and vast experience, which we want to pass onto our clients also in a form of a service.

Many experts state that companies often underestimate the care for purchased equipment. If service is underestimated, the technology may fail at the least convenient time. Therefore, saving in this place is not worth it. Regular service inspection of machines, diagnostics as well as software check is needed. It often happens that companies buy services and supplies that do not always meet the production requirements and in some cases safety parameters and thus reduce their performance.

### **Böttcher Inspection Test (BIT 19)**

The aim of printing production is printed matter of the required quality. By this term we mean a summary of the optimum performance properties, including the quality of the colouring, the fidelity of reproduction of fine details throughout the whole tone range, and a precise colour register.

In order to check and evaluate the factors that affect the print quality of the printing press, printers typically use their own test forms and evaluation criteria, which are mainly based on the nature of the jobs and the job composition.

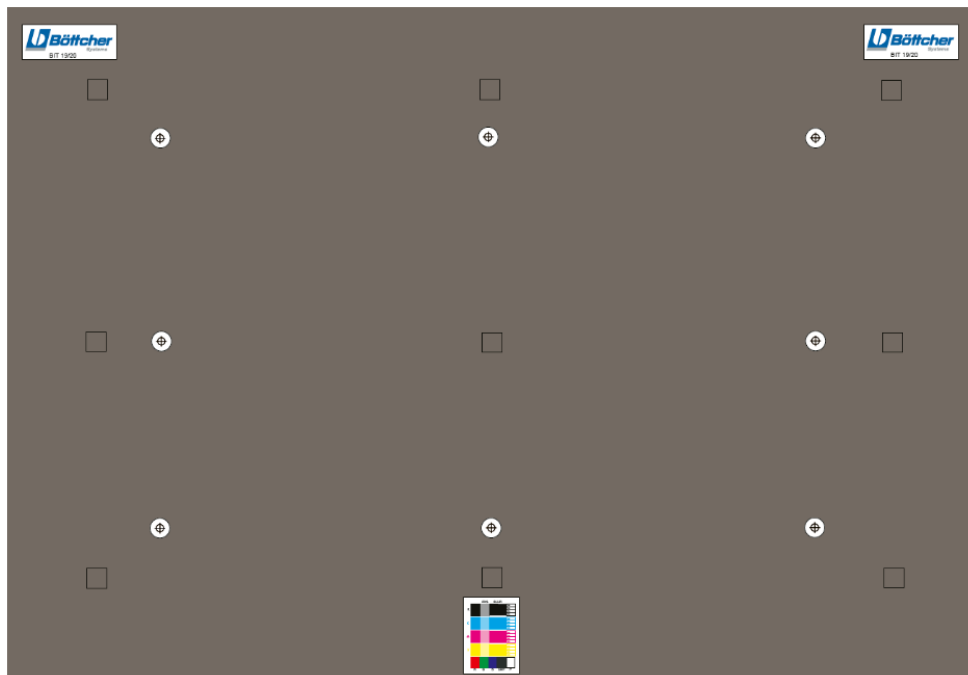
**Böttcher Inspection Test (BTI 19)** is aimed at improving the quality and efficiency of the printing process. It will enable early detection and analysis of deficiencies and prevent damage. A systematic approach is essential for success. The test is carried out by Böttcher in cooperation with the printer. The technician is equipped with a special service case, which contains the necessary equipment (pH meter, conductometer, special magnifying glass, microscope, etc.) to check and measure the parameters.

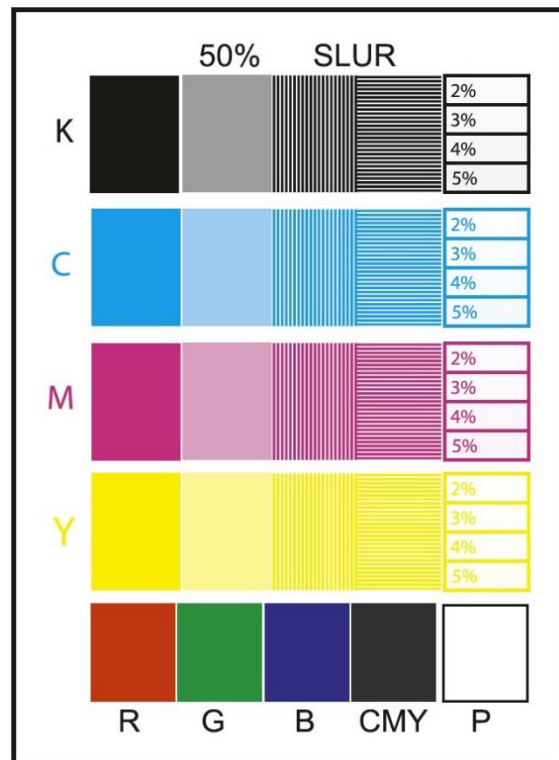
In the first phase of the test, the technician will measure, check and document:

1. Inlet water parameters (pH, hardness, conductivity)
2. Dampening solution parameters (pH, conductivity, dosing)
3. Condition of the rollers: inking unit, dampening (hardness, surface, damage)
4. Offset printing blanket check (evaluation of its condition)

## Special test printing form

A test printing form is used to control the printing process. The control elements present on the test form serve to diagnose the printing press and monitor the main printing parameters. The test form serves to analyze and detect deficiencies that may occur during the printing process and consequently cause (defects) poor quality of the printing production. The test form is designed mainly for four-colour machines.





In the second phase of the test, the technician will check and document:

- KCMY print colours register
- Print area colouring uniformity
- Tone value increase
- Density variation in print direction
- Banding and streaking
- Slur and doubling

The test result is documented and the client receives the final report (protocol) in printed and electronic form, in which the achieved results and status quo are documented. The report also includes recommendations for correcting and remedy of problems. Based on this test, the client can continuously monitor and compare parameters and the status quo of the machine. In the case of changes, they can promptly react and make the necessary adjustments e.g. in the dampening system or the process of washing or the offset printing blanket replacement.

*Note: This is not process standardization or printing machine profiling, although this test certainly fits well in case of standardization according to ISO 12647-2:2013 standard.*

Offset is currently the most commonly used printing technology. Although production seems costly, with optimized spending, this technology is both economically and qualitatively efficient most efficient. "In the printing industry, we are not so rich that we can buy cheap things."

"Böttcher products are fine-tuned, which means they are tested in working conditions and already in the development process, they are prepared for extraordinary stress situations.

The suppliers of cheap solutions often “do not look at the client as a whole, whether intentionally or by ignorance”. The result is often a chain of functional but not optimally cooperating solutions.

## **By measuring and analyzing you get important information**

The aim of the Böttcher BIT 19/20 test is to get and extract as many parameters as possible. The parameters obtained can thus be used for back-checking of the printing process, but also of the printing forms production process.

The obtained "OK" sheets from the print test are also subjected to a spectrophotometer measurement in addition to the visual assessment (by magnifying glass and microscope). Unlike with a standard densitometer, the spectrophotometer allows CIE L\*a\*b\*spectral values to be obtained, which are essential in colour analysis and assessment.

### Test 1

The print area colouring uniformity is measured. 9 measuring points are defined on the sheet. The obtained L\*a\*b\* values are compared with the reference value (located at the centre of the area) and their difference in Delta E ( $\Delta E$ ) value is defined. The screen area in printing form is defined by a 40% CMYK value.

### Test 2

A comprehensive colour pattern contains multiple elements that are analyzed and provide important information:

- 100% process colours CMYK (CIE L\*a\*b\* values)
- 50% of CMYK field – the value in % is verified
- SLUR CMYK – slur check
- 2%, 3%, 4%, 5% CMYK printing dot reproduction
- RGB trapping – L\*a\*b\* values
- CMY colour register – L\*a\*b\* value
- P – paper (D50 / L\*a\*b\* value)

The values obtained are part of a table where they are compared (CIE L\*a\*b\*) with the ISO Coated v3 standard values. This test can be a good basis if you are considering standardizing the printing process.