From HSE’s Website “On-Tool Extraction” FAQs (as at 15.09.19)

**“Does On-Tool Extraction Need Thorough Examination & Testing”?**

Yes. On-tool extraction is a form of local exhaust ventilation (LEV). The TExT ensures that the LEV system continues to meet its intended operating performance and effectively contributes to achieving adequate control as required under regulation 7 of [COSHH](http://www.hse.gov.uk/coshh/index.htm).

However, the TExT for on-tool extraction equipment is only necessary for the extraction unit itself. Other items are covered by your maintenance checks – see below.

The extraction unit should be thoroughly examined and tested at least every 14 months.

More frequent testing may be required if regular wear and tear could prematurely reduce the unit’s effectiveness.

Keep a copy of the report issued by the examiner.

Address any critical defects immediately.

Putting a test label on an extraction unit is a quick and effective way of indicating to users that the unit has undergone a TExT, that it has passed and the next examination due date. This is particularly the case for situations where different people may regularly use the extraction unit such as the construction or hire industries.

**“Do I Have to Maintain my On-Tool Extraction as well as Ensure TExT is Carried Out”?**

Yes. It’s important to note that as well as a TExT, you need to regularly check the equipment is in good working order.

This involves pre-use checks and more detailed maintenance inspections (eg weekly) to ensure the whole control system (ie hood, hoses and extraction unit) continues to provide satisfactory performance. Typical checks involve ensuring:

* any airflow indicator and built-in cleaning mechanism is properly working (eg by simulating a blockage)
* filters are replaced when necessary
* the equipment is regularly cleaned to stop dust building up
* the hood is correctly positioned, and any connections are secure (this is particularly important where equipment is being interchanged)
* there is no damage or blockages to parts of the system
* the correct collection bags are fitted to the extraction device
* parts are compatible or suitable for the task being done

Follow the manufacturer’s recommendation and instructions.

**“I’ve Been Engaged to Examine and Test On-Tool Extraction, What Should I Do”?**

The principles for conducting a TExT for on-tool extraction are the same as for fixed LEV systems and outlined in [’Controlling airborne contamination at work’ HSG 258](http://www.hse.gov.uk/pubns/books/hsg258.htm).

However, it is only necessary to thoroughly examine and test the extraction unit itself.

This is because the interchangeable nature of on-tool extraction and the range of tasks it is used for make it impractical to test all the potential combinations.

The condition and performance of the other components (ie hood and hoses) should be regularly checked by visual inspection as stated under [COSHH](http://www.hse.gov.uk/coshh/index.htm) Regulation 8. They should be replaced or repaired where there is damage or deterioration.

It is the responsibility of the employer to ensure the extraction system is functioning properly and providing effective control each time the equipment is used.

**The TExT of the extraction unit should consist of:**

**Stage 1**: Thorough visual examination - of individual parts for presence, damage or wear that could affect control performance. This may include checking the:

* unit is complete with its standard items, correct signage and identification
* extraction unit body for damage that may indicate leakage (eg latches, seals, connections and any staining around the exhaust port)
* gauge(s) and indicator(s) if fitted are correctly working
* correct filter is used, properly fitted and its condition
* filter cleaning method is working correctly (where fitted)
* collection bags can be correctly fitted and removed
* unit is approved for explosive dust according to the ATEX Directive 94/9.EC if required

**Stage 2**: Measuring technical performance – of the extraction unit(s). This involves:

* measuring the performance of the extraction unit to make sure it is adequate (eg air velocity in a test hose adjacent to the inlet or calculating this from another measurement such as volume flow – use the HSE [LEV calculator](http://www.hse.gov.uk/lev/calculator.htm))
* checking the effective performance of any indicators fitted (eg by restricting the airflow in the test hose such that the velocity falls below 20m/s)

Both ought to be done in respect to the largest diameter tubing supplied by the manufacturer.

eg For dust class M or H machines this means checking against BS EN 60335-2-69 that the air velocity is greater than 20m/s (or the equivalent volume flow etc) and that the alarm / indicator operates when it falls below this.

The examiner should use the results to determine:

* the extent of any general wear and tear
* if the unit still meets the minimum performance standards (eg that specified in standards or by the manufacturer)
* the condition of the filter and whether it needs replacing
* any other action required

**“How Can I Measure the Technical Performance of Extraction Units”?**

Any suitable equipment can be used provided the results are accurate, reliable and repeatable. Examples include:

A Pitot static tube - This can be used in conjunction with a ‘test piece’ of smooth walled duct or pipe attached to the extraction unit inlet.

Pre-drill a small hole into this test piece.

Locate the Pitot static tube through this hole ensuring that it sits in the centre of the ducting. It should sit at least 7 times the diameter away from the opening not attached to the extraction inlet (eg 350 mm for a 50mm diameter duct).

This allows the airflow to develop and provide more accurate/stable readings.

The air velocity in circular ducts is not uniform, the centreline velocity is typically 1.2 times the average velocity. **Simply divide the centreline velocity by 1.2 to give an estimate of the average velocity**.

Manometer: Make sure that you have the correct information from the manufacturer (eg the pressure at which any low flow indicator fitted should operate). Take care when selecting analogue devices to ensure that the gauge can provide an accurate reading (ie is not subject to significant deflection).

**“What Should a TExT Record for On-Tool Extraction Consist Of”?**

A record should normally contain all of the information outlined in the Approved Code of Practice to the [COSHH](http://www.hse.gov.uk/coshh/index.htm) regulations. However, some of this is not practical for on-tool extraction; particularly where it may be used with a number of different tools / hoses for a variety of work tasks. Below is an outline of the information which should be collected:

|  |  |  |
| --- | --- | --- |
| **Information/notes** | **Results** | **Actions taken/ required** |
| Name and address of employer responsible |   |   |
| Date current TExT |   |   |
| Date of last TExT |   |   |
| Equipment being examined and tested including identifying markings like serial numbers |   |   |
| Location of the equipment and substances involved (only applicable for a ‘fixed’ system) |   |   |
| **Visual examination**List items to be inspected/checked eg* condition of the extraction unit body  (eg latches, seals, connections and any staining around the exhaust port)
* signage and identification
* gauge(s) and indicator(s)

Filter(s) |   | List any critical action needed and preventative maintenance recommendations before the next TExT |
| **Results from measuring technical performance**Including:* operating performance (eg air velocity it is being judged against)
* method of measurement
* measurement of unrestricted airflow

Measurement of restricted airflow at which any alarm /indicator operates |   | List any critical action needed and preventative maintenance recommendations before the next TExT. |
| Other information |   |   |
| Name, job title and employer of the person carrying out the TExT together with a signature. |   |   |
| **Information for an on-tool extraction unit TExT report** |