

FAQ

Frequently Asked Questions about RoHS and lead-free components, and with the latest answers in respect of Schurter components

What does "RoHS" mean and why is the electronics industry impacted by it?

The title of EU Directive 2002/95/EC is "Restriction of the use of certain Hazardous Substances in electronic equipment". With effect from 1.7.2006, this prohibits the sale throughout EU territory of electrical appliances that contain more than mere traces of lead, cadmium, chromium VI, mercury or PBB/PBDE polybrominated flame inhibitors. In future, electronics manufacturers will have to be able to produce evidence that their appliances are RoHS-compliant.

→ You will find the link to the original text at <http://www.schurter.ch/products/rohs.asp>

Are there other hot issues apart from lead-free?

Yes. The RoHS prohibits another five substances that are, however, used much more seldom by SCHURTER than lead. The following rule of thumb applies to SCHURTER components:

- Mercury (Hg): not generally used
- Cadmium: used in very few contact materials; a replacement is under way
- Chromium VI: present in very few components; a replacement is under way
- PBB and PBDE: used in plastics as flame inhibitors but are traditionally not widely employed in Europe.

A survey of suppliers and appropriate measures are under way.

Trends can already be detected for the future, i.e. limitations on the use of nickel and PVC.

When will all Schurter components be lead-free / RoHS-compliant?

SCHURTER aims to have completed the conversion by 31.12.2005 at the latest.

Many components were already RoHS-compliant from the outset or have been converted in the last two years.

→ The lists relating to specific products at <http://www.schurter.ch/products/rohs.asp> are constantly updated. This is where to find **details of the announced conversion dates** for lead-free and RoHS conformity.

May a lead-free component still contain lead?

Yes, there are exceptions. Three points must be noted:

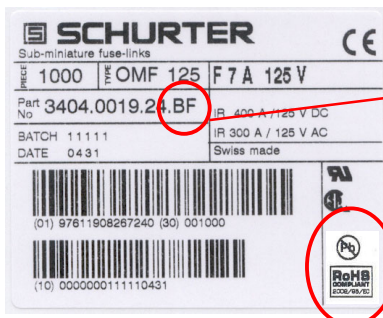
- The RoHS 2002/95/EC directive allows a lead content of up to 4% by weight (= 40,000 ppm) e.g. in copper alloys. In other words all brass components will in future still be allowed to contain a small proportion of lead – at least for the time being (Annexe, EU directive, point 6).
Example: although switch T11 comprises some parts containing 2% lead, T11 is RoHS-compliant because the lead is contained in a CuZn alloy.
For other exceptions in metal alloys please see the original text <http://www.schurter.ch/products/rohs.asp>
- SnPb solders continue to be permitted provided that high temperature soldering techniques are used for them **and** that they contain at least 85% lead (Annexe, EU directive, point 7).
Examples: SMD-FST, SMD-FTT, and SMD-SPT fuses

- As lead is a substance which is encountered almost everywhere in our environment there are scarcely any "pure" materials which contain zero (0 ppm) lead. Therefore the EU authorities will be adopting a limit value for permitted impurities at the beginning of 2005. This limit will probably be 1000 ppm, i.e. 0.1% or 1000 mg lead per kg of homogeneous material (that is, per smallest single part, not per entire Schurter component).

Important: SCHURTER components are described as "lead-free" only if lead is not one of the specified materials used, i.e. the lead content is lower than the limit of 1000 ppm.

Conclusion: strictly speaking, we should not be referring to a "lead-free" component but to an RoHS-compliant component.

Are lead-free / RoHS-compliant SCHURTER components specially labelled?



Yes, on the packaging. Some lead-free SMD components will have a new article number during the transitional phase: the suffix *.BF will be attached to the previous article number, e.g. 3404.0019.24.BF for an OMF 125 fuse. The timescale for the transitional phase is to be defined by the project team and will be published at <http://www.schurter.ch/products/rohs.asp> in due course.

A separate article number will not be allocated to components that are not designed for SM technology.

The Pb-free logo will be printed on the packaging label of **all lead-free components**. This will enable lead-free products to be identified throughout the delivery chain as long as the packaging is available.

NEW: RoHS-compliant components receive the RoHS logo on the packaging label as soon as the limit values of materials banned by the RoHS directive are complied with.

What information is SCHURTER making available in order to prove RoHS-compliance?

Since 2002, I have received enquiries from some 200 end-customers on the topic of lead-free or RoHS. They all have their special requirements for conversion dates, identification of lead-free components, suitable surfaces, conformity certificates, etc.

As makers of mass-produced articles, SCHURTER is unable to satisfy all these customer criteria but we do take their wishes seriously and are monitoring market developments closely to enable us to offer customer-friendly solutions and information. To this end we are drawing up a list containing all the queries and analysing the topics.

You will find a lot of information and regularly updated lists at <http://www.schurter.ch/products/rohs.asp> documenting each product's "lead-free" and "RoHS-compliant" conversion status.

What information is available about the contents of SCHURTER components?

A new **Product Content Sheet for Schurter components** is being made available to any interested party on request. It is organised on a product type basis and itemises the contents on the basis of their material specifications. The sheet also states whether a component is RoHS-compliant or not.

The declaration is made in accordance with the Umbrella Specification guidelines of the German Electrical & Electronic Manufacturers' Association (*ZVEI – Zentralverband der deutschen Elektronikindustrie*) and is accepted by many of the major manufacturers (Bosch, Motorola, Philips, Siemens, etc.). The ZVEI is preparing a standardisation of the guidelines in the form of a DIN or IEC norm using an accepted methodology and systematisation.

This means that SCHURTER is committed to declaring all the materials as demanded by law, thus securing the necessary transparency vis-à-vis our customers.

→ further information at www.zvei-be.org/umbrella_specs/

Can a customer work with lead-free components in a process containing lead?

Yes. Lead-free components are reverse-compatible.

However, components with a surface containing lead cannot be processed using lead-free soldering techniques because they would contaminate the solder bath with lead and render it unusable.

What are the main challenges facing SCHURTER?

There are two areas that confront us with widely varying tasks:

- **Technology** in products and processes: new and existing components may no longer contain lead – but their functions must be identical or further improved. Depending on the component, this confronts our developers with some arduous tasks.
The production processes have in some cases been completely revised. Lead-free techniques for galvanic surfaces and internal solder points have been and will be finalised in close cooperation between the development and production departments.
- **Logistics** from semi-manufactured product to final customer: the trend reversal is likely to come very suddenly and our customers will then only wish to order lead-free components. Schedulers and purchasers must be able to make small batch sizes and keep them in stock. It must be possible to identify components with and without lead at all times. Within the company, that is done by using special material numbers and by placing the Pb-free logo and/or RoHS logo on the sales pack.

Barbara Linz, Environment Protection and Safety Manager