

19 April 2023

BE Services RoHS 3 Certificate

The European Union (EU) issued Directive 2002/95/EC on the Restriction of certain Hazardous Substances (RoHS) applies to most electrical and electronic equipment placed on the market after July 1, 2006. The Directive was repealed and replaced by the Directive 2011/65/EU of 8 June 2011 (“Recast” or “RoHS 2”), which became effective January 1, 2013. The directives require elimination or limited use of the following chemicals (limit 0.1% of weight, or 1000 ppm, of any “homogeneous material”):

- Lead (Pb) (0.1%)
- Mercury (Hg) (0.1%)
- Cadmium (Cd) (limit is 0.01% or 100 ppm by weight)
- Hexavalent Chromium (Cr⁺⁶) (0.1%)
- Polybrominated Biphenyl (PBB) (0.1%)
- Polybrominated Diphenyl Ether (PBDE) (0.1%)

Under the most recent directive, (EU) 2015/863, the following additional 4 chemicals were added in a 2015 amendment to RoHS 3, which took effect on July 22, 2019:

- Bis(2-Ethylhexyl) phthalate (DEHP) (0.1%)
- Benzyl butyl phthalate (BBP) (0.1%)
- Dibutyl phthalate (DBP) (0.1%)
- Diisobutyl phthalate (DIBP) (0.1%)

BE Services confirms that our standard resistor products, as described in the company website www.bourns.com, are all in compliance with the most recent Directive (RoHS 3). Unless specifically identified by BE Services in our product spec sheets, all standard products are compliant without exemptions. Currently, BE Services has identified thirty seven resistor products which are RoHS 3 Compliant with Exemption:

<u>BE Services Resistor Products:</u>	<u>Exemption (*)</u>
ASC-Series – Anti Sulphur Chip Resistor	7(c)-1
CHR-Series – Non Magnetic Chip Resistor	7(c)-1
CLR-Series – Thick Film Chip Resistor	7(c)-1
CLS-Series – Thick Film Chip Resistor	7(c)-1
FPS-Series – Precision Shunt Resistor	7(a)
HVC-Series – Thick Film SMD Resistor	7(c)-1
MG-Series – Metal Film Resistor	7(c)-1
NHR-Series – Power Resistor	7(c)-1
NHS-Series – Power SMD Resistor	7(c)-1
NPR-Series – Power Resistor	7(c)-1
NPS-Series – Power SMD Resistor	7(c)-1
PCR-Series – Pulse Withstanding Chip Resistor	7(c)-1
PFC-Series – Thick Film Power SMD Resistor	7(c)-1
PFS-Series – Power SMD Film Resistor	7(a) & 7(c)-1
PFU-Series – High Voltage High Power Resistor	7(a) & 7(c)-1
PF1260-Series – Power Film Resistor	7(a) & 7(c)-1
PF2200-Series – Power Film Resistor	7(a) & 7(c)-1
PF2470-Series – Power Film Resistor	7(a) & 7(c)-1

<u>BE Services Ammeter Shunt and Fuse Block Products:</u>	<u>Exemption (*)</u>
MKA – Ammeter Shunt with base	6(c)
MKB – Ammeter Shunt with base	6(c)
MKC – Ammeter Shunt with base	6(c)
RCS – Ammeter Shunt	6(c)
RS – Ammeter Shunt with base	6(c)
RSH – Ammeter Shunt	6(c)
RSI – Ammeter Shunt	6(c)
RSJ – Ammeter Shunt	6(c)
RSL – Ammeter Shunt	6(c)
RSN – Ammeter Shunt with base	6(c)
RSW – Ammeter Shunt	6(c)
SWA – Ammeter Shunt	6(c)
SWB – Ammeter Shunt	6(c)
SWE – Ammeter Shunt	6(c)
WB – Ammeter Shunt with base	6(c)
WO2 – Ammeter Shunt	6(c)
CFB – Fuse Block	6(c)
FB – Fuse Block	6(c)
NFB – Fuse Block	6(c)

(*) Exemption 6(c) – “Copper alloy containing up to 4% lead by weight”

(*) Exemption 7(c)-1 – “Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound”

(*) Exemption 7(a) – “Lead in high melting temperature type solders (i.e. lead-based alloys containing 85% by weight or more lead)”

These parts are shipped as specified. The Exemptions, 7(a) and 7(c)-1 have been reviewed by the European Commission. The review was completed as of March 11, 2021.

Alternate compliant parts are available with modified specifications.

Please contact BE Services directly if you have any questions concerning this certification.

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