

November 6, 2018

Declaration of Conformity to
European Union Directives:
2002/95/EC – RoHS, 2011/65/EU - RoHS2, 2015/683/EU - RoHS3

RoHS stands for Restriction of Hazardous Substances; it restricts certain hazardous substances in electrical and electronic equipment. This directive applies to all product categories defined in Annex II Directive 2011/65/EU (RoHS2) and 2015/683/EU (RoHS3), which are sold in the EU.

This self-declaration covers the compliance of fastener materials to the material composition limits of the restricted substances listed in the directive and subsequent commission decisions and amendments.

The following standard fastener materials and secondary processes are RoHS, RoHS2, and RoHS3 compliant:

Fastener Material	Coatings and Secondary Processes
Unplated low and medium carbon steel	Mechanical galvanizing
Alloy steel	Thermal and chemical black oxide finishes
Copper and its alloys	Electrodeposited zinc plating with clear trivalent chromates
Aluminum and its alloys (except 2011)	Nylon fasteners & nylon material used for patches, pellets, and inserts
Stainless steel	Passivation processes
	Hot dip galvanized (lead free)

Table 1: Fastener Compliance

The materials used in these fasteners/coatings contain less than the maximum limits shown in table below for:

- Lead (Pb) • Cadmium (Cd), • Cr+6 (Hexavalent Chromium) • Polybrominated biphenyls (PBB), • Benzyl butyl phthalate (BBP) • Polybrominated diphenyl ethers (PBDE), • Bis (2-Ethylhexyl) phthalate (DEHP) • Mercury (Hg). • Dibutyl phthalate (DBP) • Diisobutyl phthalate (DIBP)

In addition, the lead alloying element in steel is less than 0.35% by weight in accordance with the Annex paragraph 6. Hot Dipped Galvanized fasteners are considered to be homogenous with the fastener due to being metallurgically bonded with the steel substrate. For aluminum alloys, the lead alloying element is less than 0.4% and for copper alloys, the lead content shall not exceed 4% by weight in accordance with the Annex paragraph 6.

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Table 1 Compliance Matrix for Fasteners

Substance	Maximum Limit (wt%)	
	Pb (Lead)	Carbon and Steel Alloys
Copper Alloys		4%
Aluminum Alloys		0.4%
Cd (Cadmium)	0.01%	
Hg (Mercury)	0.1%	
Cr VI (Hexavalent Chromium)	0.1%	
Polybrominated biphenyls (PBB)	0.1%	
Polybrominated diphenyl ethers (PBDE)	0.1%	
Bis (2-Ethylhexyl) phthalate (DEHP)	0.1%	
Benzyl butyl phthalate (BBP)	0.1%	
Dibutyl phthalate (DBP)	0.1%	
Diisobutyl phthalate (DIBP)	0.1%	

The substances/coatings used to manufacture fasteners shown in above table 1 contain less than the maximum limits specified in Annex 2 of Directive 2011/65/EU (RoHS2) and 2015/863/EU (RoHS3). Per print items are excluded from this declaration.

Standard parts plated with electrodeposited zinc and yellow chromate (more commonly referred to as “yellow zinc”) contain approximately 1-3 micrograms per cm² of hexavalent chromium (Cr +6) and do not comply with the 0.1 wt% maximum concentration level. Therefore, standard parts that have electroplated yellow zinc plating, will not comply with Directive 2011/65/EU (RoHS2).

The previous statements are based on information obtained from industry publications; Brikksen has not conducted any independent testing that would support it.

Brikksen has multiple sources for chromium free coatings that will meet or exceed the performance of standard plating containing hexavalent chromium.

This information does not purport to address all directive requirements and should only be used as a preliminary guide. It is recommended that the directives pertaining to your product be read in their entirety.