PRODUCT ENVIRONMENTAL INFORMATION

Mini contactor

MC1

ABB's M mini contactors are a performance-dimension optimized solution for all the purposes. Mainly dedicated to the control of motor and resistive loads, also in harsh conditions, the range includes single contactors equipped with three or four main poles and two different types of terminals, a wide range of variants dedicated to rolling stock applications, and a complete set of accessories. Thanks to a dedicated mechanical interlock, it is also possible to create reversing starters.

Features

MC1 mini contactors are used in industrial, but also household environments for the control of single or three-phase motor loads up to 4 kW and resistive loads up to 20 A. These devices can be equipped with standard AC or DC coils, low energy consumption coils for direct control by PLC, and extended operating limit coils for facing voltage fluctuations. The superior quality of materials they are built with ensures suitability for household appliances according to IEC 60335-1 clause 30, and in applications characterized by extreme conditions (e.g. high temperature, high altitude, fast operation). All products can be combined with ABB's Manual Motor Starters or T16 Overload Relays for complete, but still compact, protection solutions.

Product conformity & compliance

REACH (Regulation EC 1907/2006)
MC1 and related accessories were classified as Articles and, during normal and reasonably foreseeable conditions of use, do not intentionally release any substance or preparation. ABB continuously undertakes communications throughout its supply chain in order to collect information about suppliers' compliance with REACH regulation.

SVHC (Regulation EC 1907/2006 REACH)
ABB continuously assesses its products for content of Substances of Very High Concern (SVHC), as included in the "Candidate List" by the European Chemicals Agency (ECHA). ABB publishes the data about the products that are having a part with SVHC in the SCIP database.

RoHS II
MC1 and related accessories are within the scope of directive 2011/65/EU (RoHS II) and amendment 2015/863, starting from July 22 2019.

WEEE
The Waste Electrical and Electronic Equipment Directive (WEEE Directive) is the European Community directive 2012/19/EU on waste electrical and electronic equipment (WEEE) which, together with the RoHS Directive, became European law in February 2003.

Product safety
Compliance with essential health and safety requirements has been assured by compliance with the applicable product and safety standards. The validation according to the product and safety standards is carried out by third party tests laboratory (STIEE / TL030) in respect of the EN ISO/IEC 17025 European standard, according to IECEE CB scheme. CB certificate has been issued.

Standards:
- IEC/EN 60947-1
- IEC/EN 60947-4-1
- IEC/EN 60947-5-1

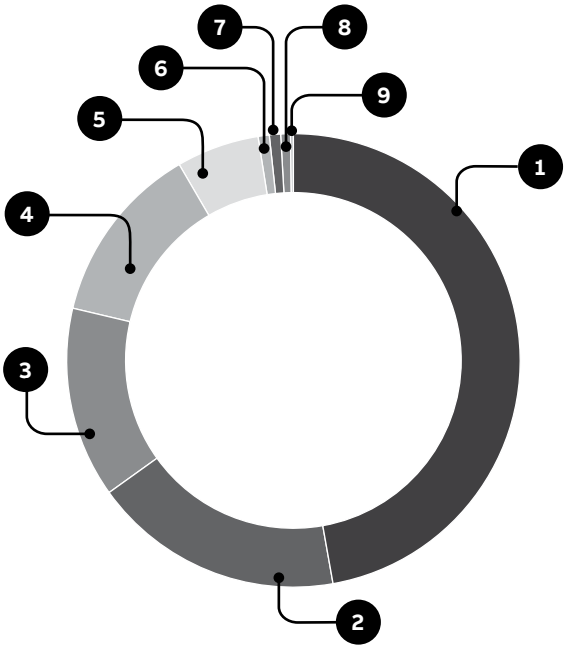
- UL 60947-1
- UL 60947-4-1
- UL 60947-5-1

Directives:
- EC Low Voltage Directive (LVD) 2014/35/EU

Material declaration

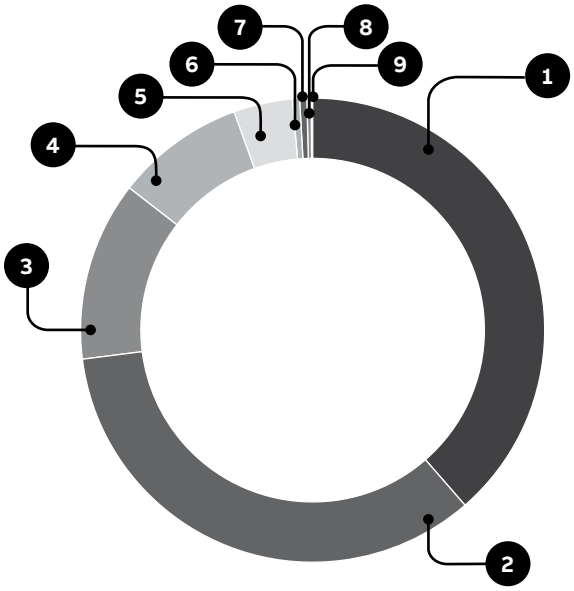
This section outlines the material composition of two representative products of the MC1 mini contactors. MC1A310AT6 for AC operated and MC1C310ATD for DC operated mini contactor. The constituent materials are distributed as follows.

MC1A310AT6. The total weight of the product is 170 gr.



Material		% wt
1	Steel	47.2 %
2	Copper	17.9 %
3	PA	13.6 %
4	PBT	12.9 %
5	Copper alloys	5.9 %
6	Silver alloys	0.8 %
7	Stainless steel	0.8 %
8	Other metals	0.8 %
9	Other thermoplastic	0.1 %
	TOTAL	100 %

MC1C310ATD. The total weight of the product is 250 gr.

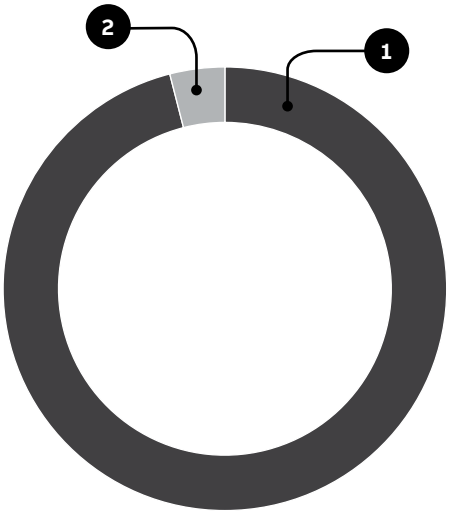


Material		% wt
1	Copper	38.6 %
2	Steel	34.4 %
3	PBT	12.5 %
4	PA	9.0 %
5	Copper alloys	4.1 %
6	Silver alloys	0.5 %
7	Stainless steel	0.5 %
8	Other metals	0.3 %
9	Other thermoplastic	0.1 %
	TOTAL	100 %

Packaging

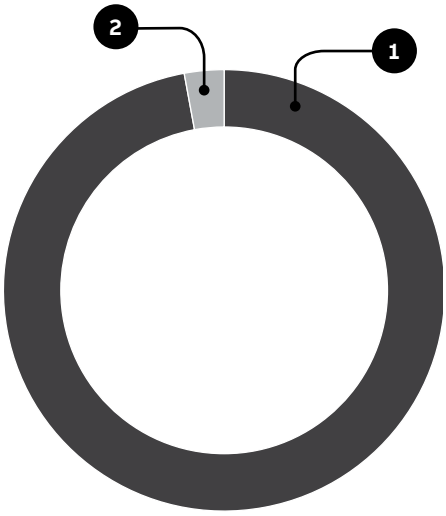
The tables below provide information for each packaging material used. The card box used for the product material are made of recycled fibers and are 100 % recyclables.

MC1A310AT6. Packaging material composition: total weight 10 gr.



Material		% wt
1	Cardbox	95.9 %
2	Paper	4.1 %
	TOTAL	100 %

MC1C310ATD. Packaging material composition: total weight 13,5 gr.



Material		% wt
1	Cardbox	97.1 %
2	Paper	2.9 %
	TOTAL	100 %

Product use

Energy

Power losses for mini contactor MC1 are indicated in the following table:

Type		Power loss (W/device)
MC1A	I_e / AC-1	9.0
	I_e / AC-3	7.4
	I_e / AC-3e	7.4
MC1C	I_e / AC-1	5.6
	I_e / AC-3	3.9
	I_e / AC-3e	3.9

End-of-life

At the end of operating life, constituent components of MC1 mini contactor have been optimized in order to reduce waste amount and increase recovery of the material. Metals and polymers contained into MC1 mini contactor are characterized by high recycling rates. Most plastic parts are marked for easy sorting.

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