

HD4

Gas insulated MV circuit-breakers

Supplement on Materials

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1 Introduction

ABB views the protection of our environment as an important factor which helps to improve the competitiveness of the company by reducing the consumption of resources.

In our company, environmental protection starts right away in the product development phase. Estimation of the environmental impact of a product takes account of its entire life cycle, from the manufacture of the raw materials to possible recycling or reuse after decommissioning of the equipment.

ABB Power Technologies S.p.A., Unità Operativa Sace, is certified with regard to environmental protection to EN ISO 14001 and has in addition committed itself to compliance with the ICC-Charter ¹⁾.

ABB is a party to the "Voluntary Agreement of SF₆ Producers, Manufacturers and Users of Electrical Equipment > 1 kV ..." and therefore undertakes "to take back equipment containing SF₆ from its production which is returned by the users". The recycling operations are fully documented by the parties to the Voluntary Agreement.

2 Scope

This Materials Supplement refers to the substance accruing after decommissioning of gas circuit-breaker from the HD4 product family and to the removal of the recyclable SF₆.

In the entire life cycle process of gas circuit-breaker ABB follows the principle of avoiding SF₆ emissions wherever possible.

With regard to the removal and recovery of used SF₆ from HD4 series, ABB therefore offers to accept the return of the used SF₆ and the HD4 series containing SF₆.

3 Actions at the end of service life

ABB can decommission and dismantle the circuit-breaker. The circuit-breaker is professionally disassembled by ABB and the SF₆, which is as a rule reusable, is removed before the circuit-breaker is divided up into the remaining components. The SF₆ can be removed from HD4 series by appropriate equipment via an extraction valve at site after decommissioning. If it complies with IEC 60480 standard after removal, it can be reused directly by the operator. If it complies with the gas manufacturer's "Re-use Specification", it can be returned as a product to ABB or the gas manufacturer.

If the gas-free circuit-breaker is to be returned to use in the same application after decommissioning, it remains classified as a product.

Otherwise, the gas-free circuit-breaker is to be professionally disposed of in accordance with the relevant laws. The substances accruing in that process are — in as far as possible — to be recycled. Disposal is to be documented in accordance with the relevant statutory provisions and directives.



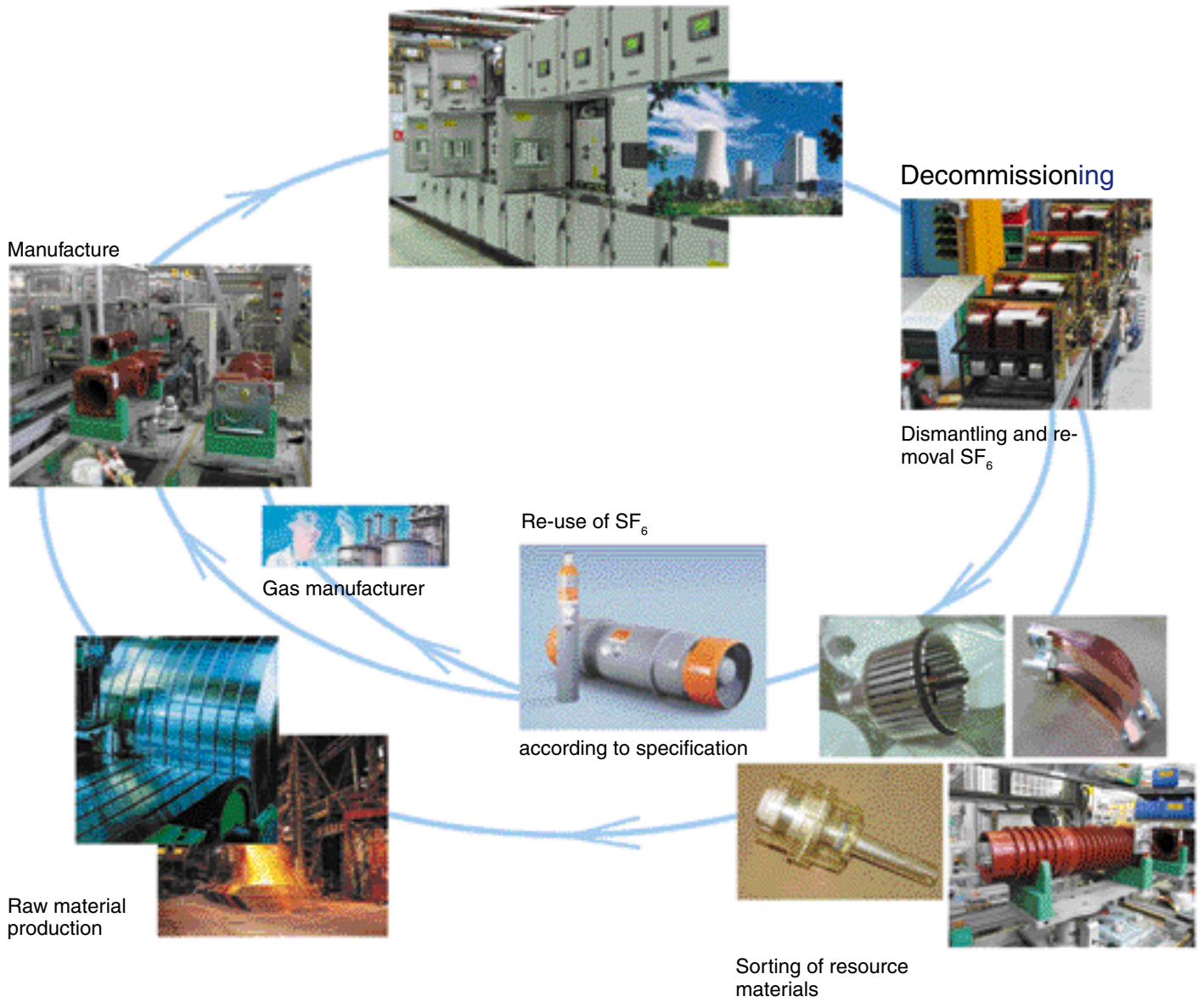
HD4 circuit-breaker with front operating mechanism.



HD4 circuit-breaker with side operating mechanism.

1) ICC: International Chamber of Commerce

4 Material cycle



MATERIAL	[g]	%
Steel	68.105	47.6
Stainless steel	14.030	9.8
Aluminium	899	0.6
Alumina	378	0.3
Copper	23.151	16.2
Copper-tungsten 20	315	0.2
Polyamide 11	15	0.0
Polyamide 66	161	0.1
Polycarbonate	140	0.1
Polycarbonate+FB30	1.069	0.7
Polyester glass	2.337	1.6
PVC	8	0.0
Bronze	9	0.0
PTFE	227	0.2
Epoxy resin	23.751	16.6
Epoxy resin-Fe10	844	0.6
SF ₆	282	0.2
Brass	198	0.1
Others	7081	5



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