FM Mattsson

Edition 1, Dec 02

Environmental declaration of products

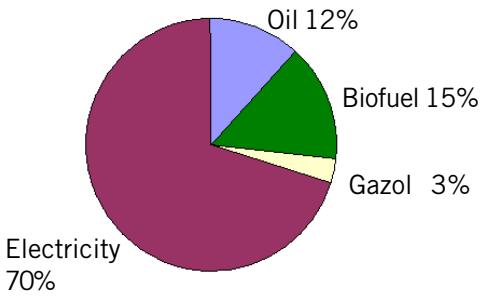
Company

FM Mattsson AB, Box 427, S-792 27 MORA, Sweden
Tel: +46 (0)250 278 00, Fax: +46 (0)250 159 60
Environment, contact: Ingemar Kånåls
Products, contact: Ola Persson
www.fmmattsson.com

Production

Our manufacturing process from raw material to finished product is as follows: Moulding-Machining-Surface treatment-Assembly-Packaging.

Use of energy in production (effect %)



Declaration

The text contents are applicable to the company´s total production. The declaration also includes a material specification of the company´s basic products as below. Material specification of other products/details will be sent on request.
The company also provide "Enviromental declaration branch certified by the Swedish manufacturer of heating, plumbing and sanitation" for sanitary fittings. FM Mattsson´s basin mixer FMM 9050-0050 is enviromental marked according to ISO 14025 (Certificate No 245001).

Products

	FMM No.	RSK No.
Single lever kitchen mixer	9100-0050	830 87 39
Single lever wash basin mixer	9050-0000	823 52 12
Safety mixer	9210-0000	834 20 83
FMM Electronic	1600-3000	855 31 65
Water tap	4290-0050	431 66 84
Towel rail	3347-2250	875 81 18

Raw material

Primary material

Moulded brass - Brass rod - Copper pipes - Stainless steel - Zinc - Ceramics - Plastic/Rubber/Fibre.

FM Mattsson has special demands for plastic and rubber from an enviromental point of view.

Sub-contract purchasing

Heat pressed brass – Plastic, rubber, fibre, ceramics and steel parts.

Brass

Brass consists of approx. 62% copper, 36% zinc and 2% lead. Lead is used as a softening agent for further processing. The lead, as with other metals, can be re-used when the brass is left for re-melting

Surface treatment

Chromium plating

Chromium plating renders a superior quality and a longer product life. Chromium plating consists of a 0.9g/dm^2 base layer of nickel and a 0.02g/dm^2 protective chrome layer. The Ni/Cr layer is re-melted together with the brass when dealing with the used product.

Powder coating

When brass is melted, approx. 60% of the organic component is converted to CO_2 and NO_x. Pigment and filler are the impurities in the melted product.

Choice of powder coating or chromium plating

Powder coating is considered to be better than chromium plating with regard to processing energy and processing discharge.
The surface treatment process amount however to a small part of a product´s total enviromental charge, while the chromium plating increases the durability and longevity of the surface. A powder coated product has larger total enviromental effect in calculation of life cycle analysis than 10 years. If the time of application is shorter than 10 years the products total enviromental charge is just as large for a chromium plated as a powder coated product.

Longevity

The technical length of life of a fitting is at least 25 years. The real length of life is determined mainly by the following:

- The chemical quality of the water and its foreign substances and particle content.
- Customer's choice of surface treatment (see above) and customer's choice of cleaning routines/agents.
- The way the fittings are used.

Material - energy and water saving

Single lever mixer

The single lever technique minimises setting time and unnecessary flushing time.
FM Mattsson's mixer has an in-built technique which softens the pressure in the feed system. The smaller pipe dimensions used throughout the pipe installation render considerably less total material usage.

Safety mixers

Pressure balanced thermostat mixer (safety mixer) maintains a constant temperature apart from pressure and temperature changes in the feed tubes and minimises by that unnecessary flushing time.The mixers can be fitted with the limitet flow, EcoFlow™, to save even more water.

Control and Approval

Seepage of metals into water

Tests carried out for seepage into water show that the demands made by NCB (Nordic Committee for Building Regulations) are fulfilled.

Seepage of nickel from nickel/chromeplated knobs and handles

Tests undertaken by IVF and analyses initiated by FM Mattsson AB of their own products (according to prEN 1811), combined with the degree of exposure in relation to other nickel exposure in the day to day environment, show that the risk for allergies and hand eczema is very low when there is normal contact with handles and knobs.

Approval of foodstuffs

Lubricants and polymer materials such as plastic and rubber which come into contact with water are controlled and approved from a foodstuff's point of view by the international test agencies NSF, WRC and FDA.

Type approvals

The products are type approved in the Scandinavian countries. Selected parts of the product programme are also approved in the USA (UL), Canada (CSA), Australia (QSA) and UK (WRAS).

Packaging

The product is packaged mainly in corrugated cardboard and cellular plastic. Corrugated cardboard is made up of 50-100 % recycled fibre. There are no compound materials in the wrapping. 1 hg of packaging is used for 1 kg of product. The manufacturer is responsible for the packaging. FM Mattsson is a member of *Reparegistret* (producers responsible for packaging). Company registration No. is 556051-0207. Follow the local authority's routines for sorting and collection of waste. Corrugated cardboard should be recycled and cellular plastic should be left for energy extraction. There are certain places available for recycling of cellular plastic.

Transport

The products are transported mainly by trucks.
FM Mattsson uses haulage companies, which have their own enviromental strategy and use i.a, a data-based logistics system to minimise the enviromental load.

Environmental work

FM Mattsson AB has a paperless co-ordinated operating system which includes ISO 9001 and ISO 14001, amongst others. We also work with life cycle analyses and environmentally adapted product development.

Environmental profile

The figures have been reached by calculation templates which are specially designed for internal key ratios and cannot be compared to other environmental profile calculations. These key ratios are the tools used in FM Mattsson's continuous work of 'constant improvement' in the environmental field.

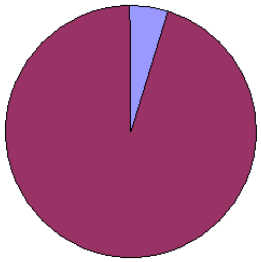
Discharge of metals into water:	7g/ton end product
Total energy use:	17 MWh/ton end product
Deposited rest products:	375 kg/ton end product
Hazardous waste:	38 kg/ton end product
Recycled residues:	1018 kg/ton end product

Recycled material

The metals copper, chrome, nickel, lead and zinc have intrinsic characteristics which means that they can have a damaging effect when they are, for example, dumped. When the metals are then eventually set free, they end up in the soil and water. It is, therefore, important that used products containing these metals are left in for melting down and recycling.

FM Mattsson's sanitary fittings are designed for easy demounting and sorting of waste. 95 % of the raw brass in FM Mattsson's fittings are already recycle-based. The metal core and plastic, ceramic and rubber parts, etc., can be left at a recycling station or similar. The used/ exchanged product can also be left in its entirety to the nearest metal recycling company.

99-100% of the product is recycled material



Plastic as waste

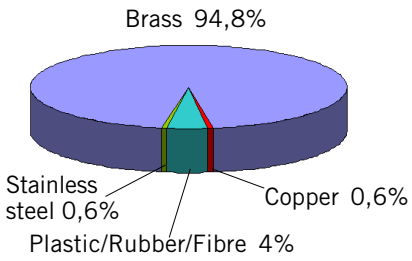
Plastic products in general should initially be recycled. The plastic parts in FM Mattsson's 9000 series which have not been chromed facilitate future recycling. Otherwise the energy content should be made use of locally by incineration in large environmentally approved incineration plants. Today, incineration is recommended for fittings with plastic parts. This procedure is valid even for chromed plastic. Plastic is oil-based and has a relatively high energy content. On incineration mainly carbon dioxide is formed.

Material specification

FMM 9210-0000 Safety shower mixer

RAW MATERIAL	WEIGHT (g)
Brass	2400
Copper	15
Plastic/Rubber/Fibre	102
Stainless steel	14
TOTAL WEIGHT	**2531**

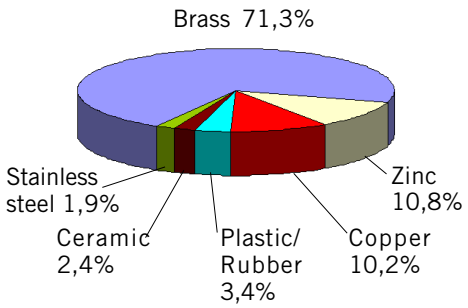
Weightpercent material



FMM 9050-0000 Wash basin mixer

RAW MATERIAL	WEIGHT (g)
Brass	1012
Zinc	153
Copper	145
Plastic/Rubber	48
Ceramic	34
Stainless steel	27
TOTAL WEIGHT	**1419**

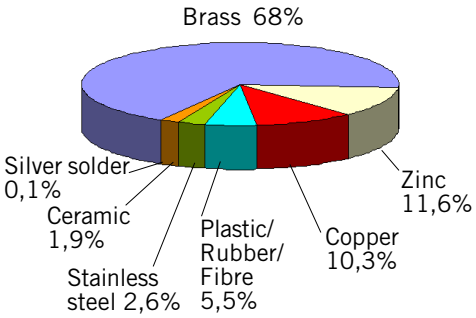
Weightpercent material



FMM 9100-0050 Kitchen mixer

RAW MATERIAL	WEIGHT (g)
Brass	981
Zinc	167
Copper	149
Plastic/Rubber/Fibre	79
Stainless steel	37
Ceramic	28
Silver solder	2
TOTAL WEIGHT	**1443**

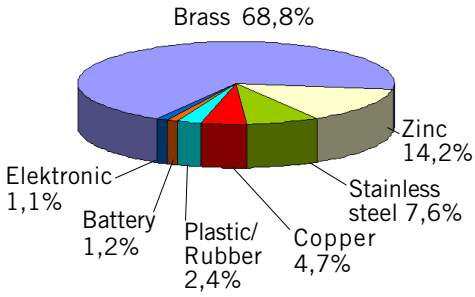
Weightpercent material



FMM 1600-3000 FM Mattsson electronic

RAW MATERIAL	WEIGHT (g)
Brass	2194
Zinc	454
Steel	242
Copper	149
Plastic/Rubber	76
Battery	39
Elektronic	36
TOTAL WEIGHT	**3190**

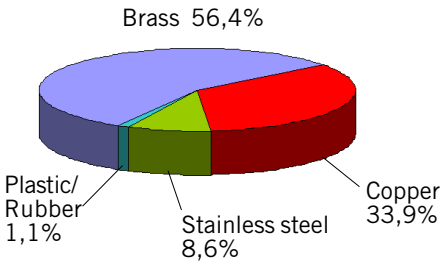
Weightpercent material



FMM 4290-0050 Water tap

RAW MATERIAL	WEIGHT (g)
Brass	567
Copper	341
Stainless steel	87
Plastic/Rubber/Fibre	11
TOTAL WEIGHT	**1006**

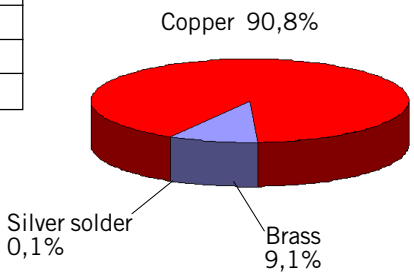
Weightpercent material



FMM 3347-2250 Towel rail

RAW MATERIAL	WEIGHT (g)
Brass	266
Copper	2660
Silver solder	3
TOTAL WEIGHT	**2929**

Weightpercent material



FM Mattsson

Box 427, SE-792 27 MORA, Sweden.
www.fmmattsson.com
Tel +46 (0)250-278 00. Fax +46 (0)250-159 60.