

camattini spa thermosetting resins

**FILLERS****Filler EF 18 T Treated microspheres****Typical product characteristics**

COLOUR	APPARENT DENSITY (g/ml)	REAL DENSITY (g/ml)	MEDIUM PARTICLES SIZE (µm)
White	0,05 - 0,20	0,12 - 0,40	50 - 90

EF 18 T is a low density treated filler based on borosilicate hollow microspheres. It can be added to epoxy, polyurethane or polyester resins to obtain pourable products, putties, light modelling paste, with final density also less than 0.4 g/ml. The hardened product can be machined very easily with cutting tools and it is easily sandable.

Suggested proportion range:

For castable products: from 10 to 20 parts each 100 parts of resin

For putties or paste: from 25 to 40 parts each 100 parts of resin

The product has been treated to avoid dust formation during its introduction in the resin. The protection of respiratory apparatus is mandatory during machining of the hardened products.

Refer to the Health and Safety Data Sheet and comply with waste disposal regulations in force.

**Filler EF 23 Phenolic microballoons****Typical product characteristics**

COLOUR	APPARENT DENSITY (g/ml)	REAL DENSITY (g/ml)	MEDIUM PARTICLES SIZE (µm)
Red	0,10	0,21 - 0,25	40 - 50

EF 23 is a low density filler based on phenolic hollow microsphere. It can be added to epoxy, polyurethane or polyester resins to obtain pourable products, putties, light modelling paste, with final density also less than 0.4 g/ml. The hardened product can be machined very easily with cutting tools and it is easily sandable.

Suggested proportion range:

For castable products: from 10 to 20 parts each 100 parts of resin

For putties or paste: from 25 to 40 parts each 100 parts of resin

The product don't gives rise to dust formation during its introduction in the resin. The protection of respiratory apparatus is mandatory during machining of the hardened products.

Refer to the Health and Safety Data Sheet and comply with waste disposal regulations in force.

**Fillers EF 31 – EF 31/B - Hollow microspheres****Typical product characteristics**

COLOUR	APPARENT DENSITY (g/ml)	REAL DENSITY (g/ml)	MEDIUM PARTICLES SIZE (µm)
Grey	0,40	0,70	200 - 250

EF 31 and EF 31/B are hollow microspheres based on aluminosilicates with low density and moderate price. It can be added to epoxy, polyurethane or polyester resins to obtain pourable products, putties, light modelling paste, with final density also less than 0.8 g/ml. The hardened product can be machined with hardened metal cutting tools and it is easily sanded due to the hollow structure.

Suggested proportion range:

For castable products: from 50 to 80 parts each 100 parts of resin

For putties or paste: from 150 to 300 parts each 100 parts of resin

Due to the density relatively high of the product the dust formation during its use is very limited. It is anyhow advisable to work in a fume-hood or with a respiratory protection. The protection of respiratory apparatus is mandatory during machining of the hardened products.

Refer to the Health and Safety Data Sheet and comply with waste disposal regulations in force.

**Filler ALOLT 1 Aluminium hydroxide**
**Typical product characteristics**

COLOUR	APPARENT DENSITY (g/ml)	REAL DENSITY (g/ml)	MEDIUM PARTICLES SIZE (µm)
White	1,00	2,40	40 - 60

ALOLT 1 are fillers greatly appreciated, in the particles size available, as a low humidity fillers for pure polyurethane systems with filler apart. Due to the self-extinguishing properties they can be used as a filler to improve the flame resistance of epoxy, polyurethane and polyester systems.

Suggested proportion range:

For castable products: from 150 to 200 parts each 100 parts of polyurethane pure resin.

Refer to the Health and Safety Data Sheet and comply with waste disposal regulations in force.

**Fillers EF 20/H and Ecka AS 3 Atomized fine granules aluminium**
**Typical product characteristics**

Type	COLOUR	APPARENT DENSITY (g/ml)	REAL DENSITY (g/ml)	MEDIUM PARTICLES SIZE (mm)
EF 20/H	Grey	0,8 – 1,2	2,7	0,075-0,71
Ecka AS 3	Grey	1,00	2,7	0,075-0,71

EF 20/H and Ecka AS 3 are an aluminium fine grit particularly suitable as fillers for epoxy and polyurethane resins to obtain a good thermal conductivity.

Suggested proportion range:

Conductive filler for MC 163, MC 164, MC 155, MR 108: fill as much as possible until the system is pourable.

The quantity may range from 50 to 150 parts each 100 parts of pure resin depending on available type.

For heavily filled slurries: from 300 to 400 parts each 100 parts of polyurethane pure resin. (es. EC57/W57.01).

EF 20/H AND Ecka AS 3 are not considered dangerous for transport and storage.

Refer to the Health and Safety Data Sheet and comply with waste disposal regulations in force.

**Fillers EF 21/H and Ecka AS 31 Atomized fine granules aluminium**
**Typical product characteristics**

TYPE	COLOUR	APPARENT DENSITY (g/ml)	REAL DENSITY (g/ml)	MEDIUM PARTICLES SIZE ((µm)
EF 21/H	Grey	1,0 – 1,4	2,7	0-75
Ecka AS 3	Grey	0,7 - 1,1	2,7	0-71

EF 21/H and Ecka AS 31 are an aluminium fine grit particularly suitable as fillers for epoxy and polyurethane resins to obtain a good thermal conductivity.

Suggested proportion range:

For connecting layers: from 50 to 100 parts each 100 parts of pre-filled system (es. MC 163/W 500)

For heavily filled slurries: from 30 to 50 parts each 100 parts of pure resin plus coarse aluminium (from 300 to 600 parts depending on available type).

EF 21/H and Ecka AS 31 are not considered dangerous for transport and storage.

Refer to the Health and Safety Data Sheet and comply with waste disposal regulations in force.

**camattini spa**

Thermosetting resins

Strada Antolini, 1

I - 43044 Collecchio (Parma)



++ 39 0521/304711 r.a.



++ 39 0521/804410 (mkt) - 804679


<http://www.camattini.it>

[camattini@camattini.it](mailto:camattini@camattini.it)

camattini spa thermosetting resins

Fillers

**Fillers EF 26/H and Ecka MO 1 Atomized coarse granules aluminium**
**Typical product characteristics**

TYPE	COLOUR	APPARENT DENSITY (g/ml)	REAL DENSITY (g/ml)	MEDIUM PARTICLES SIZE (mm)
EF 26/H	Grey	1,1 – 1,4	2,70	0,5 - 1,5
Ecka MO 1	Grey	0,85 – 0,95	2,70	0,5 – 2,0

EF 26/H and Ecka MO 1 are an aluminium coarse grit particularly suitable as filler for epoxy and polyurethane resins to obtain castable or heavily filled slurries with good thermal conductivity.

Suggested proportion range:

For castable slurries: 100 parts each 100 parts of pre-filled system (es. MC 163 or MC 164)

For heavily filled slurries: from 500 to 600 coarse aluminium per 100 parts of pure resin plus, if needed, 50 parts of EF 21/H or AS 31 to improve cohesion, but pay attention because the addition of fine particle size filler makes the slurry unpourous so that you cannot use it if porosity is needed (i.e. thermoforming).

EF 26/H and Ecka MO 1 are not considered dangerous for transport and storage.

Refer to the Health and Safety Data Sheet and comply with waste disposal regulations in force.

**Fillers Quartz grains**
**Typical product characteristics**

TYPE	COLOUR	APPARENT DENSITY (g/ml)	REAL DENSITY (g/ml)	MEDIUM PARTICLES SIZE (mm)
EF 05	Beige	1,50	2,60	0,3 - 0,9
Quarts 0,7-1,2	Beige	-	2,60	0,7 - 1,2

They are coarse quartz grit, free from very fine particles, particularly suitable as filler for epoxy and polyurethane resins to obtain castable or heavily filled slurries having low thermal expansion and thermal conductivity.

Suggested proportion range:

For castable slurries: 100 parts each 100 parts of pre-filled system (es. MR 10 or MC 153)

For heavily filled slurries: from 1000 to 2000 parts each 100 parts of pure resin.

Refer to the Health and Safety Data Sheet and comply with waste disposal regulations in force.

**Filler EF 14 Jet-black grit**
**Typical product characteristics**

COLOUR	APPARENT DENSITY (g/ml)	REAL DENSITY (g/ml)	MEDIUM PARTICLES SIZE (mm)
Black	-	2,60 - 2,70	0,5 - 5,0

EF 14 is a mineral machinable grit known as "slate" particularly appreciated as filler for epoxy and polyurethane resins to obtain castable or heavily filled slurry easily machinable.

Suggested proportion range:

For castable slurries: 100 parts each 100 parts of pre-filled system (es. MR 10)

For heavily filled slurries: from 900 to 1000 parts each 100 parts of pure resin.

EF 14 doesn't contain free silica in a significant amount.

Refer to the Health and Safety Data Sheet and comply with waste disposal regulations in force.

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The information given in this publication is based on the present state of our technical knowledge but buyers and users should make their own assessments of our products under their own application conditions.

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