

Flexible Mica Slip Plane Materials for the Metals Melting Industry

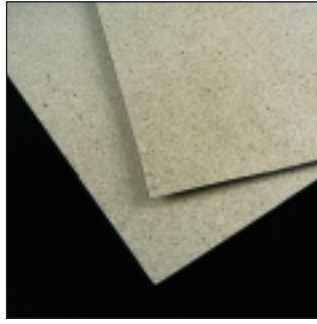


Coge-Foil 504 products are primarily designed to separate refractory linings from the coil grout of coreless induction furnaces and offer the following benefits:

- *provides a vapor barrier against carbon gases,*
- *provides superior slip plane properties and protects the inductor coils from the expansion and contraction forces caused by thermal expansion of refractory lining,*
- *provides electrical insulation between the energized coil and the molten metal,*
- *optimizes the heat flow to prevent over-sintering of the refractory lining,*
- *prevents early leakage and subsequent costly damage to the coil,*
- *facilitates the "push out" of worn crucibles/linings*
- *extends the life of the crucible/refractory thereby reducing maintenance costs and down time,*
- *Coge-Combi 504 (504 Combi) prevents excessive heat loss,*
- *Coge-Tec 504T provides a security alarm system for molten metal leakage.*

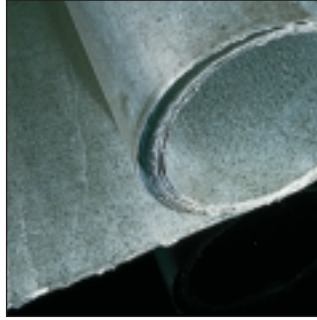
APPLICATIONS

Several grades of flexible Coge-Foil 504 products are available. Refer to data chart for specific product numbers. Each of them offers specific features. They all have Phlogopite mica in common which is the most heat resistant type of mica (1200°C).



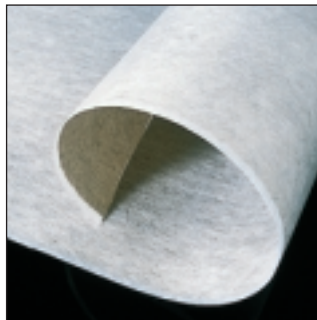
Coge-Foil 504 Sheets:

- Highest in density and dielectric strength.
- Best in heat transfer.
- A very good vapor barrier.
- Available thickness from 0,5 to 5 mm.
- Sheet size 1000 x 1000 to 1000 x 2400 mm.



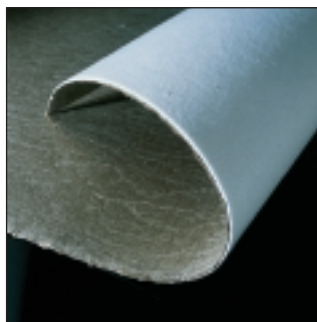
Coge-Foil 504R Rolls:

- Low density.
- Reduced heat transfer.
- Can be easily cut into sheets using a sharp knife.
- Easy to stock.
- Ideal to service different sizes of furnaces.
- Available thickness 0,2 / 0,3 / 0,4 and 0,5 mm.
- Rolls 1 m wide, up to 40 m long.



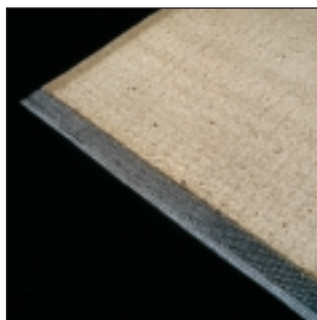
Coge-Foil 504 Sinter:

- Glass fiber reinforced. Higher tensile and tearing strength (otherwise identical to Coge-Foil 504R).
- Available thickness 0,38 / 0,40 and 0,50 mm.
- Rolls 1 m wide, up to 40 m long.



Coge-Combi 504 (504 combi)

- A mica-ceramic fiber laminate.
- Lowest thermal conductivity of all 504 products.
- Best for preventing heat losses.
- Available thickness 2,1 to 3,5 mm.
- Rolls 1 m wide, up to 25 m long.



Coge-Tec 504 T Sheets:

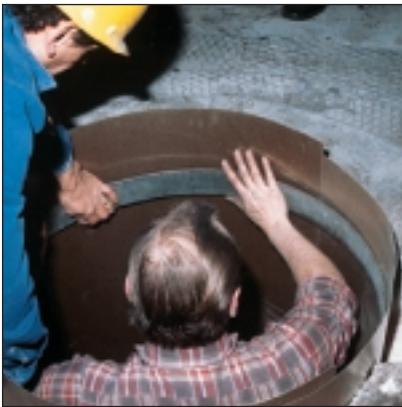
- A stainless and antimagnetic steel net sandwiched between 2 layers of mica to sense and report worn out lining/metal runout, and early leakage of the molten metal through the refractory lining to an electronic control unit.
- Available thickness 1 mm.
- Sheet size 1000 x 1000 up to 1000 x 2400 mm.

INSTALLATION

- Having decided which Coge-Foil to use, select the appropriate sheets or cut sheets from the rolls into the size as required for the furnace.
- Make sure the coil grout is clean and prepared as required.
- Press the sheets smoothly against the grout. If more than one sheet is required, an overlap of 50 mm should be allowed. To hold the sheets in place, use strips of adhesive tape or a RTV silicon adhesive. Vertical joints also should be covered with adhesive tapes.

- When Coge-Combi 504 material is used, the ceramic side is placed against the coil leaving the mica to provide the slip plane.

- Coge-Tec 504T should be used only following your furnace manufactures guidelines to ensure the proper function of an "early leakage" alarm system.



EXPENDABLE CRUCIBLE FORMERS AND SINTERING WITH MOLTEN METAL

Coge-Foil 504 Sinter contributes in an essential manner towards the success of this fast and economic sintering system. The reusable former is wrapped with one layer. For the tapered portion, cut the Coge-Foil 504 Sinter into 50 mm wide overlapping strips and held together with an adhesive tape.

Once the refractory lining has been compacted, the former is dismantled and withdrawn, leaving the Coge-Foil 504 Sinter against the lining. Place retainer rings carefully against the foil to ensure its stability, and cover the bottom with scrap metal for its protection.

Coge-Foil 504 Sinter is essential to ensure an optimal sintering of the refractory lining by protecting the upper part against excessive heat radiation, which could lead to an irregular sintering of the crucible.



COMPOSITION, PROPERTIES AND AVAILABILITY

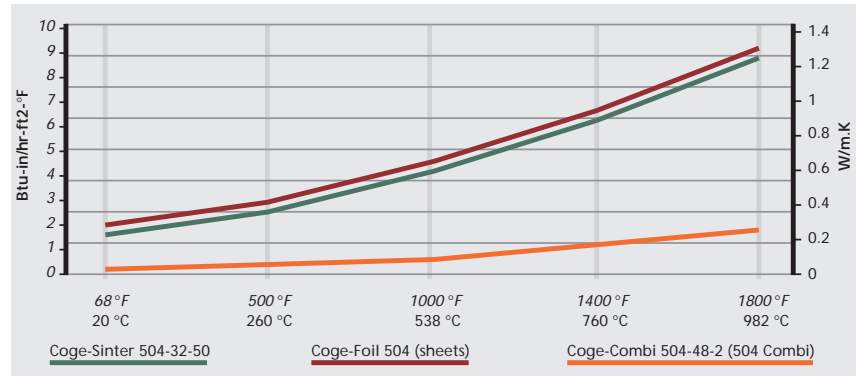
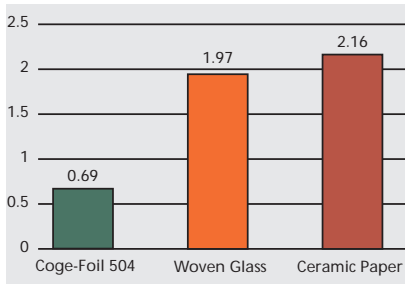
Grade	Thickness mm	Width: 1 m Length	Composition	Dielectric strength
Coge-Foil 504	0,5 - 5	1 - 2,4	BD Cogemica	≥ 15 KV/mm
Coge-Foil 504R 20	0,2	20 / 40	BD Cogemica	≥ 2 KV/Layer
Coge-Foil 504R 30	0,3	20 / 40	BD Cogemica	≥ 3 KV/Layer
Coge-Foil 504R 40	0,4	20 / 40	BD Cogemica	≥ 4 KV/Layer
Coge-Foil 504R 50	0,5	20 / 40	BD Cogemica	≥ 5 KV/Layer
Coge-Foil 504-48-34	0,4	20 / 40	BD Cogemica + Glass Fab	≥ 4 KV/Layer
Coge-Sinter 504-25-50	0,38	20 / 40	NW Glass + BD Cogemica + NW Glass	≥ 3 KV/Layer
Coge-Sinter 504-32-50	0,4	20 / 40	NW Glass + BD Cogemica + NW Glass	≥ 4 KV/Layer
Coge-Sinter 504-48-50	0,5	20 / 40	NW Glass + BD Cogemica + NW Glass	≥ 5 KV/Layer
Coge-Sinter 504-70-25	0,58	20 / 40	BD Cogemica + NW Glass	≥ 6 KV/Layer
Coge-Combi 504-19-2 (504 Combi)	2,1	12,5 / 25	BD Cogemica + 2 mm Ceramic	≥ 4 KV/Layer
Coge-Combi 504-32-2 (504 Combi)	2,35	12,5 / 25	BD Cogemica + 2 mm Ceramic	≥ 5 KV/Layer
Coge-Combi 504-48-2 (504 Combi)	2,5	12,5 / 25	BD Cogemica + 2 mm Ceramic	≥ 6 KV/Layer
Coge-Combi 504-48-3 (504 Combi)	3,5	12,5 / 25	BD Cogemica + 3 mm Ceramic	≥ 7 KV/Layer
Coge-Tec 504T sheets	1	1 - 2,4	BD Cogemica + SS Net + BD Cogemica	not measured

BD = Bonded
 NW = Non Woven
 SS = Stainless Steel

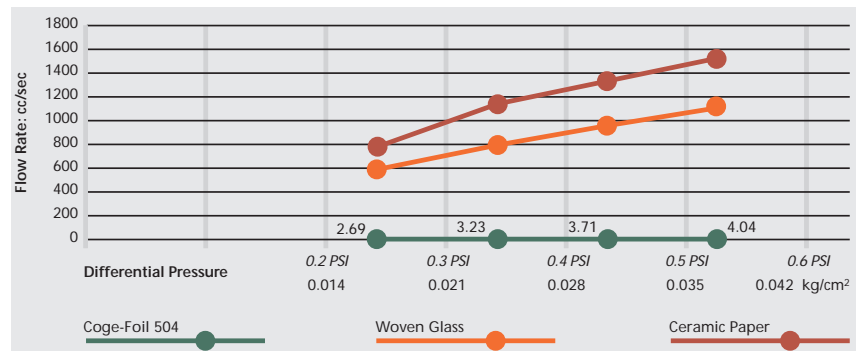
Thermal conductivity (ASTM C-177)

Higher conductivity = greater heat transfer

Coefficient of friction



Comparative permeability (ASTM E128-89)



Data are average results of laboratory tests conducted under standard procedures and are subject to variation. These do not constitute a warranty or representation for which we assume legal responsibility.



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