MightyFibre Precast Shapes

RESCO
PRODUCTS (UK) Ltd.

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MightyFibre

High Performance Precast Shapes

MightyFibre

SIL2-HCA

TAB1-HCA

TAB2-HCA

17CS

What is MightyFibre?

MightyFibre is a composite material consisting of a refractory castable homogeneously combined with large volumes of stainless steel fibres.

Compared with the traditional "infiltration" technique, **MightyFibres**' forming method allows the properties of the castable component to be maximized and gives the designer much greater flexibility in the selection of the % fibre addition, both and length and grade.

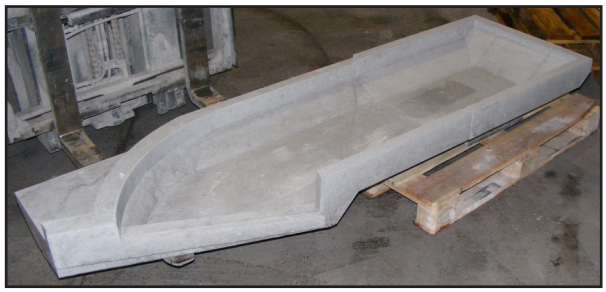
It is supplied to customers in the form of Precast shapes which are normally bolted into place using stainless steel sockets embedded in the shapes.

Areas of use

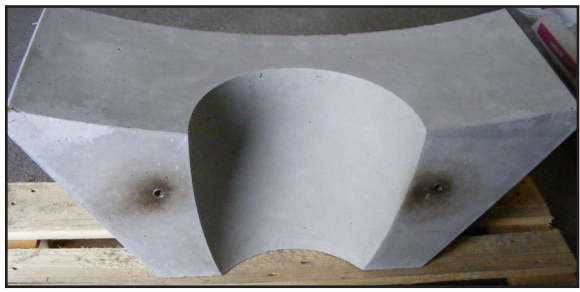
- Replacement of metal components which typically fail due to high service temperatures.
- Replacement of castable/brick sections subject to high mechanical impact and/or thermal shock.
- Structures and components requiring high flexural strength and erosion resistance.

Benefits vs. Other Systems

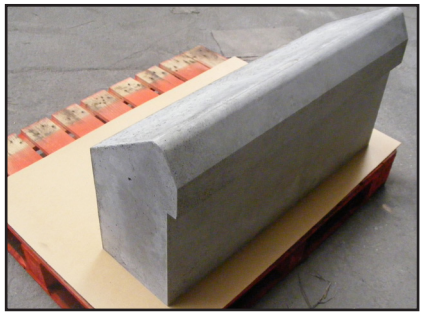
- Fibre distribution is homogeneous throughout the shape whatever the fibre length or % addition used.
- The forming method used ensures 100% "wetting" of the fibres and ensures no dry joints between the fibre and castable. Blocks can be designed with fibre lengths between 6mm and 35mm.
- Stainless steel grades for the fibres can be selected based on the specific application. The grades available include: 304, 309, 310, 330, 430, 446 as well as the high Cr – Al grades.
- By virtue of its much coarser structure and lower water demand, the castable component within the fibre/castable composite has far superior properties compared with blocks made with infiltration techniques.
- The MightyFibre forming technique eliminates the possibility of "hedgehogs" or clumps of fibres within the shape that contain no refractory.
- Fibre additions to the castable component can be designed to be anywhere between 7 and 35% by weight, depending on application or customer requirements.



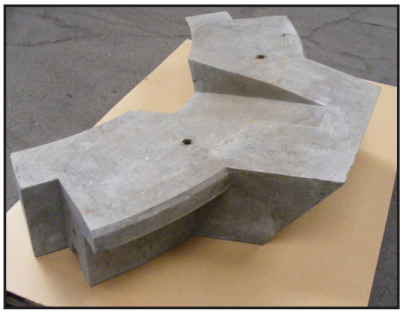
FeSi Transfer Ladle



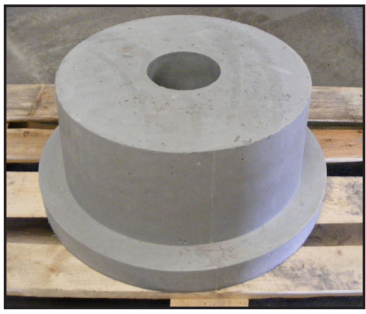
Si Ladle Spout



Aluminum Cill Block



FeSi Spout



FeSi Porous Plug Support

MightyFibre

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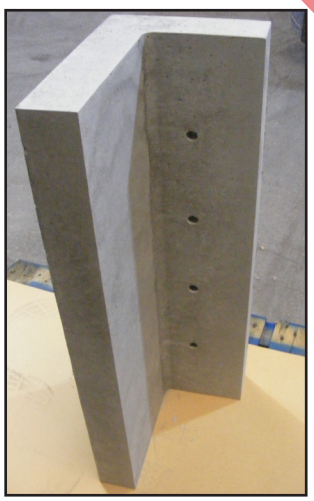
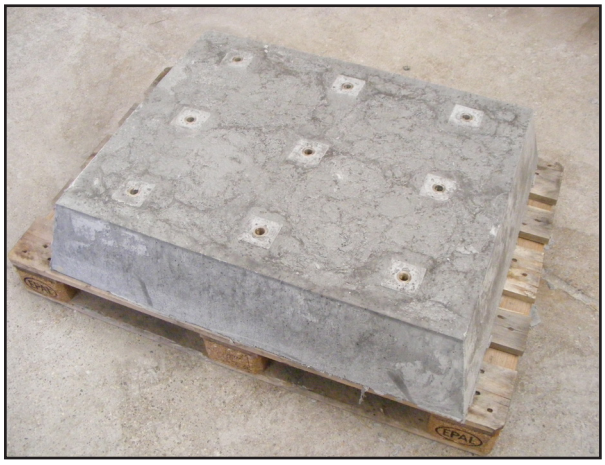
Ladle Lip Ring

Precast Kiln Nose Ring

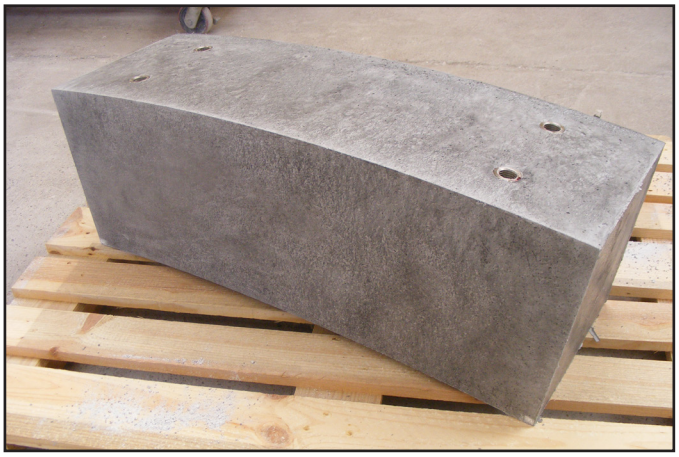
Aluminum Jamb Block



FeSi Back Board



Roof Block



Aluminum Lintel Arch Block

Specific Applications

- Ladle pouring spouts in Silicon Metal, Steel, and the Super Alloys Industry
- Lintels, jambs, cill, and roof blocks around the charging doors of Aluminum furnaces
- Ladle rim blocks, porous plug support blocks, launders, and ladle lid blocks in the FerroAlloy Industry.
- Nose ring blocks in rotary kilns.
- Walkway slabs around furnaces and kilns
- Tertiary air damper

MightyFibre

High Performance Precast Shapes

Product Name	Fibre Type	Max Service Temp	815°C Reheat Properties				Chemistry**		
			Bulk Density	Cold MOR	Erosion Loss (ASTM C704)	Permanent Linear Change	Al_2O_3	SiO_2	Fe_2O_3
		°C	kg/m³	kg/cm²	cc	%	%	%	%
MightyFibre SIL2-HCA-25	HCA	1650	3325	>630	<3.5	0.0 to -0.2	83.6	8.0	0.2
MightyFibre TAB1-HCA-21	HCA	1700	3265	>490	<4.0	0.0 to -0.2	90.0	4.2	0.3
MightyFibre TAB2-HCA-25	HCA	1700	3350	>560	<4.0	0.0 to -0.2	95.9	0.1	0.04
MightyFibre 17-CS-15*	CS	325	3050	>280	--	0.0 to -0.15	53.2	40.2	0.8

*Properties shown are after heating to 325°C.
**The above chemistry is for the ceramic component of the block only.
The above table represents just a few of the MightyFibre products available. Please contact your local Resco representative who can advise you on your specific application.

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SIL2-HCA

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MightyFibre SiL2-HCA-25
Initially formulated for Ferro-silicon/silcon metal applications such as spouts and other ladle components. It has now also found great success in the Aluminum Industry around furnace doors.

MightyFibre TAB1-HCA-21
Formulated specifically for use in vacuum conditions as encountered in Vacuum Induction Melting of Super-alloys. Primarily used for pouring spouts.

MightyFibre TAB2-HCA-25
Formulated for use in Hydrogen atmospheres where Silica must be minimized.

MightyFibre 17-CS-15*
Formulated for less refractory applications where carbon steel fibres can be used. Typical applications include walkway slabs around brick kilns.

Threaded sockets are routinely embedded into MightyFibre blocks in order to provide secure method of anchoring the shape to surrounding beams/steelwork. These Sockets are normally 304 Stainless steel and are wax coated to allow for thermal expansion during use.

Typical thread sizes used are M12, M16, M20 & M24 depending on block size & application (Other sizes & steel grades are available on request). Embedded sockets can also be used to attach eye-bolts for lifting purposes.

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