## STEEL FIBRES FOR REINFORCING REFRACTORY CASTABLES

For some applications, with thermal shocks, impacts, thin linings, the toughness of the castable has to be improved by a reinforcement.

A traditional reinforcement as used in civil concrete can't be used because of high temperatures, the thermal expansion of big, long steel rods would be much higher than the castable, that would break the castable.

Our steel fibres are a micro reinforcement usable at high temperatures. They control micro cracking, reduce cracking and improve toughness and lifetime.

We offer 2 types of fibres:

**DOSAGE**: 3 to 5 % w/w (3 to 5 kgs of fibers for 100 kgs of castable)





Cold drawn process gives a tensile strength 3 times higher than the melt extracted technique

Hooked ends make to the fibres better connected, attached to the castable CD fibers are recommended for severe applications

**DOSAGE**: 2 % w/w (2 kgs of fibers for 100 kgs of castable)



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## Chemical analysis:

STEEL FIBRES	C %	Р%	SI %	Mn %	S %	Cr %	Ni %	Al %
ME-304	≤0.20	≤0.04	≤1.0	≤1.5	≤0.030	18-20	8-10	
CD - 304	≤0.15	≤0.04	≤1.0	≤1.5	≤0.030	18-20	8-10	
ME - 310	≤0.15	≤0.04	≤1.0	≤2.0	≤0.030	24-26	19-22	
CD - 310	≤0.15	≤0.04	≤1.0	≤2.0	≤0.030	24-26	19-22	
ME - 446	≤0.30	≤0.04	≤1.5	≤1.0	≤0.030	23-25		
ME - 430	≤0.30	≤0.04	≤1.5	≤1.5	≤0.035	18-20		
CD – LC (low carbon)	≤0.15	≤0.04	≤0.75	≤0.6	≤0.035			
ME - HCA			0.4	0.4		23.5		5
CD - HCA			0.4	0.4		23.5		5

For some applications, with short lifetime (injection lances in iron and steel industry for instance) a low carbon LC alloy is sometimes used.

ME melt extracted manufacturing process is fast and simple, it is cheaper that CD process.

ME fibres (lower tensile strength, not hooked ends) are suggested for applications which aren't difficult.

CD manufacturing process and design is much more sophisticated, and gives a much better performing reinforcement.

CD fibres are recommended for critical applications.

<u>Mixing</u>: put the dry castable into the paddle mixer, turn on the mixer and dry mix during one minute, add the fibers and keep mixing during one minute, add the water and keep mixing until you get right consistency.

## Packing:



20 kgs per cardboard box 50 cardboard boxes per pallet 1000 kgs per pallet



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