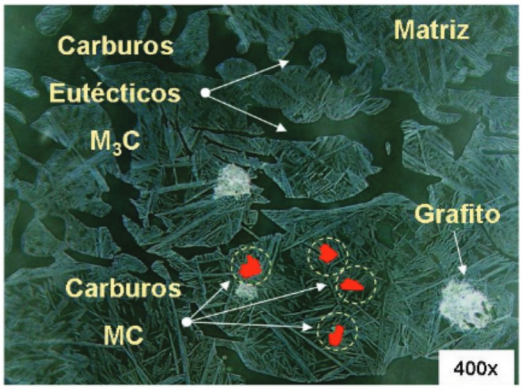
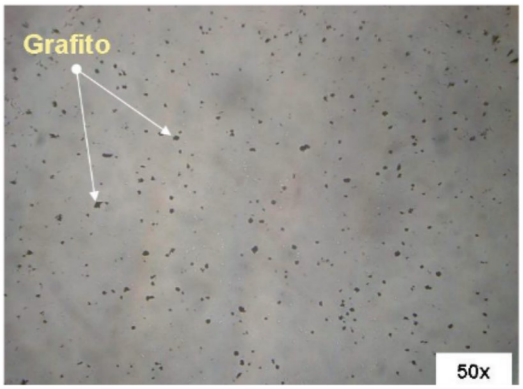
SCCTI K/L/N

CENTRIFUGATED INDEFINITE TEMPLE IRON





CHARACTERISTICS

Bimetallic cylinders manufactured by the centrifugal casting process. The work layer is constituted by an alloy known as iron of undefined tempering. From the simplest to the most complex versions, alloys of indefinite temple, combine three key elements in its microstructure: the M3C-type eutectic carbides, graphite and a matrix composed of bainite and martensite.

The type-K alloy constitutes an improved version by FSC with respect to the classical alloy of indefinite temple thoroughly tested worldwide. The type-K alloy has been specially designed to achieve precipitation of graphite with compact and non-lamellar morphology. This gives the material a substantial improvement with respect to resistance, thermal fatigue and accidents in the rolling mill.

The L and N-type alloys are the "microalloyed" exponents within the indefinite temple iron developed by FSC. They incorporate as alloy, elements belonging to Group V of the periodic table such as niobium and vanadium. The presence of these elements promotes precipitation of MC-type primary carbides that due to their extreme hardness (~ 2500HV), morphology and distribution, give the piece in service significant performance increases when compared with the traditional qualities of indefinite temple.

TABLE OF USES

	MILLS	
	Hot Sheet	Cold Sheet
SCCTI-K/L/N	Finishing	Support
73	•	•
75	•	•
78	•	•
80	•	

CHEMICAL COMPOSITION (WORK LAYER)

C	Si	Mn	Cr	Ni	Mo	Other (Nb/V/W)	S	P
2.80	0.50	0.50	1.00	3.50	0.20	<	<	<
3.30	1.50	1.00	2.00	4.50	0.60	3.00	0.015	0.080

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MECHANICAL CHARACTERISTICS

Tensile Strength (Mpa)	350 – 450
Young's Modulus (GPa)	175 - 185

CORE MATERIAL

The material forming the core and the necks of the bimetallic cylinders made by centrifugal casting is Nodular Iron of predominantly pearlitic matrix and a very low concentration of carbides to ensure maximum levels of toughness and resistance.

CHEMICAL COMPOSITION (CORE)

C	Si	Mn	Cr	Ni	Mo	S	P
3.00	1.50	0.30	<	0.30	<	<	<
3.50	2.00	0.60	0.50	1.00	0.20	0.015	0.080

MECHANICAL CHARACTERISTICS

Hardness (ShC)	35 - 45
Tensile Strength (MPa)	350 – 450
Flexural Strength (MPa)	700 - 900
Young's Modulus (GPa)	170 - 180

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FINAL PRODUCT