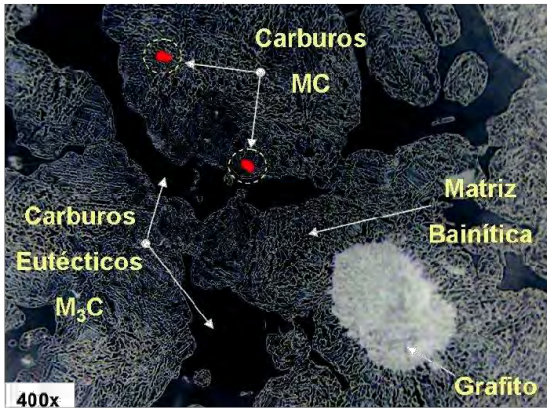


# SCNB/SCNACN

NODULAR IRON WITH NIOBIUM

## CHARACTERISTICS



These materials constitute an excellent instance based on two of the qualities most widely tested by Fundición San Cayetano, the SCNP and the SCNAC. In SCNB and SCNACN alloys Niobium has been introduced as the forming element primary carbides of MC type. Due to the high deposition temperature from the liquid phase, MC carbides with Vickers microhardness ~ 2400HV tend to be located in the center of the primary dendrite in growth (they are in service in the softest regions of the microstructure) acting in this way as reinforcement to increase the wear resistance of the matrix. By comparing the Vickers microhardness of the primary monocarbides (~ 2400HV) with that of traditional cementitic or M3C eutectic carbides (1000 - 1200HV), it is clear the possibility of improvement with regard to the wear properties of the cylinder.

Moreover, the compact morphology of these MC carbides does not alter the mechanical characteristics and the thermal fatigue resistance of the SCNAC and SCNP alloys.

SCNACN and SCNB qualities can be applied in many different applications and have proven to be particularly suitable for rolling stands of seamless tubes mills and hot-sheet winding rolls among others.

### TABLE OF USES

SCNB/SCNACN	Tubes seamless		Rod		Hot sheet
	Rolling	Calibrator	Intermediate	Finishing	Winder
55					
60	•	•	•		
65	•	•	•	•	•
68				•	•

### CHEMICAL COMPOSITION (SCNB)

C	Si	Mn	Cr	Ni	Mo	Otros	S	P
3.00	1.50	0.30	0.10	1.50	0.30	0.50	<	<
3.50	2.50	0.80	1.00	4.50	1.00	1.50	0.015	0.080

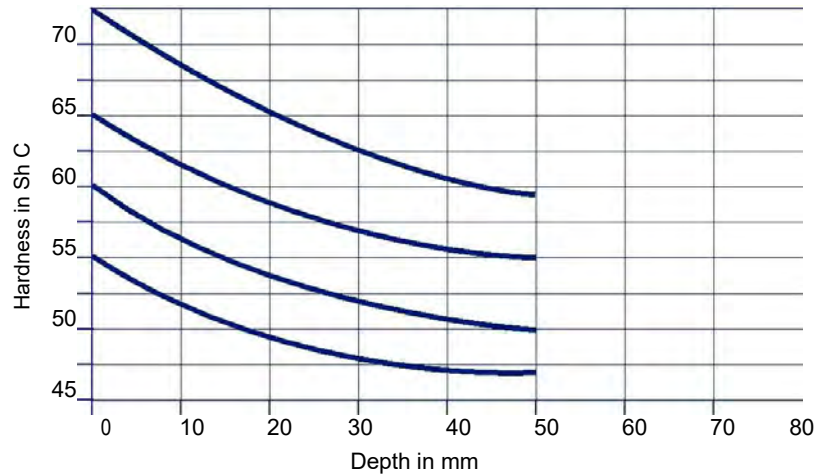
# SCNB/SCNACN

NODULAR IRON WITH NIOBIUM

## MECHANICAL CHARACTERISTICS

Tensile Strength (MPa)	350 – 600
Flexural Strength (MPa)	700 – 1000
Elongation (%)	1.0 – 2.0

## HARDNESS GRADIENT\_ (SCNB)



## CHEMICAL COMPOSITION (SCNACN)

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

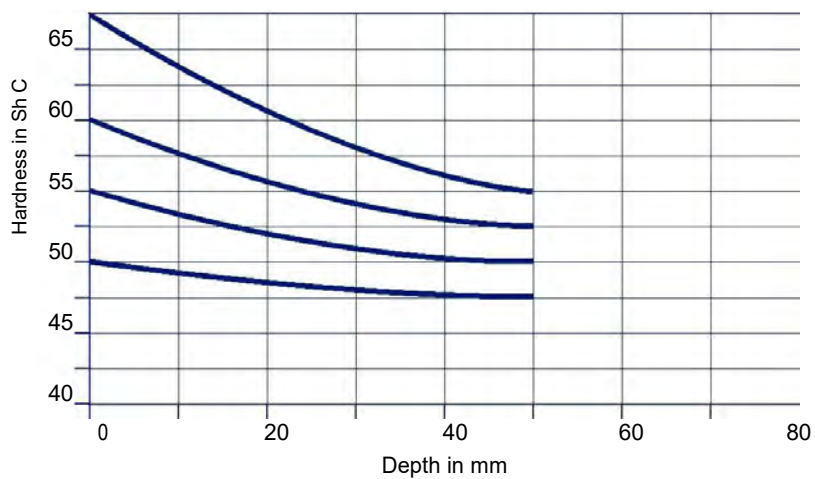
## MECHANICAL CHARACTERISTICS

Tensile Strength (MPa)	550 - 750
Flexural Strength (MPa)	800 - 1100
Elongation (%)	1.0 – 2.0

# SCNB/SCNACN

NODULAR IRON WITH NIOBIUM

HARDNESS  
GRADIENT  
(SCNACN)



FINAL  
PRODUCT

