













































SIDERURGICAL

NODULAR FERRITIC-PEARLITIC/PEARLITIC/ACICULAR					
TYPE	HARDNESS		CHARACTERISTICS	APPLICATIONS	
	Shore C	Brinell			
 ARMOT	45 / 51	300 / 360	Nodular cast-iron rolls with ferritic-pearlitic structure		- Roughing open mills for round, billets, medium and heavy sections
 ARMOT - D	51 / 58	360 / 400			
 ARMOT - R	45 / 51	300 / 360	Nodular cast-iron rolls with ferritic-pearlitic structure <u>Heat treatment</u>		- Roughing open mills for round, billets, medium and heavy sections - Straightening rollers - Especially for strong stress
 ARMOT - D - R	49 / 56	340 / 390			
 ARMOT - L	45 / 51	300 / 360	Nodular cast-iron rolls molibdenum alloyed with ferritic - pearlitic structure		- As above - Especially suggested for low speed
 ARMOT - D - L	51 / 58	360 / 400			
 ARMOT - S	47 / 54	320 / 380	Nodular cast-iron rolls with ferritic-pearlitic structure		- Special roughing when is necessary strong toughness and constant hardness up to the core
 ARMOD	58 / 65	400 / 460	Nodular cast-iron rolls with prevalent pearlitic structure and free cementite - <u>Heat treatment for grade - R -</u>		- Roughing and preparing for round, wire-rod, small, medium heavy sections, small and large strips - Straightening rollers - Higher resistance to mechanical stress and wear
 ARMOD - R	58 / 65	400 / 460			
 ARMOD - L	58 / 65	400 / 460	Nodular cast iron rolls with molibdenum alloyed with prevalent pearlitic structure and free cementite		- As above, especially suggested for low speed
 ARMOD - F	63 / 68	450 / 500	Nodular cast-iron rolls with pearlitic-bainitic matrix and free cementite - <u>Heat treatment for grade H - R</u>		- Roughing and continuous mills and intermediate stands for rounds and wire-rod - Preparing and finishing small, medium and heavy sections bars, billets and strips - Especially for strong stress grade H - R
 ARMOD - H - R					
 ARMOD - S	66 / 74	480 / 550	Nodular cast iron rolls with prevalent pearlitic structure and free cementite		- Pre-finishing and finishing stands reinforced bars
 ARMOD - A - T - T	51 / 58	360 / 400	Nodular cast-iron rolls with acicular structure and free cementite <u>Heat treatment for grade - R -</u>		- Intermediate pre-finishing and finishing small, medium and heavy sections, bars and billets - Finishing small strips - Better tensile strength and mechanical wear for grade - R -
 ARMOD - A - T	58 / 65	400 / 460			
 ARMOD - A - T - R	56 / 63	390 / 450			
 ARMOD - A	65 / 70	460 / 515	Nodular cast-iron rolls with acicular structure and free cementite <u>Heat treatment for grade - R -</u>		- Finishing for plain and deformed rounds - Straightening rollers - Intermediate pre-finishing and finishing small, medium and heavy sections, bars, billets and flats - Better tensile strength and mechanical wear for grade - R -
 ARMOD - A - R	61 / 66	430 / 480			
 ARMOD - A - S	68 / 73	500 / 540	High alloyed Ni, Mo, nodular cast-iron rolls with acicular structure and free cementite		- As above, more hardness - Slitting stands
 AFS	67 / 74	490 / 550	Nodular cast - iron rolls, with acicular structure. Small quantities of cementite in martensitic matrix of tempering heat treatment <u>- bimetallic poured grade - C -</u>		- Finishing deformed rounds
 AFS - C	68 / 76	500 / 570			









CLEAR CHILL					
TYPE		HARDNESS		CHARACTERISTICS	APPLICATIONS
		Shore C	Brinell		
	TNB 1	66 / 70	475 / 515	Clear chill cast-iron rolls Ni, Cr, Mo alloyed	<ul style="list-style-type: none"> - Intermediate stands pre-finishing and finishing open and continuous mills and for round and wire rod - Pre finishing and finishing small strips - Guide rollers
	TNB 2	68 / 72	500 / 535		
	TNB 3	71 / 74	525 / 550		
	TNB 3-S	76 / 80	570 / 615	Ni, Cr, Mo, high alloyed clear chill cast iron rolls	<ul style="list-style-type: none"> - Finishing rounds and small strips - Pre-finishing and finishing round and wire-rod - Finishing small strips
	TNB 4	76 / 79	570 / 600		
	TNB 4-S	76 / 80	570 / 615		
	TNB 3-C	71 / 74	525 / 550	Ni, Cr, Mo, high alloyed clear chill cast iron rolls bimetallic poured	<ul style="list-style-type: none"> - Intermediate stands pre-finishing and finishing open and continuous mills and for round and wire rod - Pre finishing and finishing small strips - Guide rollers
	TNB 4-C	76 / 80	570 / 615		
	TNB 4-C-S	78 / 81	590 / 630		

INDEFINITE CHILL					
TYPE		HARDNESS		CHARACTERISTICS	APPLICATIONS
		Shore C	Brinell		
	As. CNM	60 / 65	415 / 460	Indefinite chill alloyed Cr, Ni, Mo, cast iron rolls	<ul style="list-style-type: none"> - Second roughing stand for concrete rein forcing rounds and wire rod - Guide rollers - First intermediate group and preparing continuous mills for rounds and medium and small sections
	As. CNM A/L	60 / 65	415 / 460		
	As. 4	65 / 75	460 / 560	Indefinite chill cast-iron rolls with high percentage of alloying elements Cr, Ni, Mo heat treatment for grade R	<ul style="list-style-type: none"> - Pre-finishing and finishing round - Pre-finishing and finishing flats - Pre-finishing and finishing small and medium sections
	As. 4-R				
	As. 4-C	70 / 77	515 / 580	Indefinite chill cast-iron rolls with high percentage of alloying elements Cr, Ni, Mo bimetallic poured	<ul style="list-style-type: none"> - Pre-finishing and finishing round - Pre-finishing and finishing flats - Pre-finishing and finishing small and medium sections

HYPEREUTECTOID STEEL / GRAPHITIC STEEL					
TYPE		HARDNESS		CHARACTERISTICS	APPLICATIONS
		Shore C	Brinell		
	ACCIAIO FOMSA	30 / 41	230 / 320	Ni, Cr, Mo, alloyed forged steel rolls	<ul style="list-style-type: none"> - First small roughing stand
	IPE 1	28 / 39	220 / 300	Ni, Cr, Mo, alloyed hypereutectoid steel base rolls	<ul style="list-style-type: none"> - Roughing and preparing medium and heavy sections - Pre finishing medium sections
	IPE 2				
	IPE 3	37 / 41	280 / 320	Ni, Cr, Mo, alloyed hypereutectoid steel base rolls	<ul style="list-style-type: none"> - Roughing and preparing small sections - Preparing heavy sections - Pre finishing heavy sections - Finishing medium sections
	IPE 4	39 / 46	300 / 350		
	IPE - S 1	35 / 40	270 / 310	Ni, Cr, Mo, alloyed hypereutectoid steel base rolls with higher properties of mechanical and wear resistance	<ul style="list-style-type: none"> - For all above applications
	IPE - S 2	39 / 44	300 / 340		
	IPE - S 3	41 / 47	320 / 360		
	IPE - S 4	46 / 52	350 / 400		
	G.S.B.	40 / 52	310 / 400	Ni, Cr, Mo, alloyed hypereutectoid steel base rolls with higher properties of thermal conductivity due to the presence of graphite nodules	<ul style="list-style-type: none"> - For all above applications especially where considerable thermal shock is present

HIGH CHROME					
	TYPE	HARDNESS		CHARACTERISTICS	APPLICATIONS
		Shore C	Brinell		
	H.Cr	64 / 73	450 / 550	High chromium cast-iron carbides in pearlitic-bainitic matrix - Special heat treatment	- Finishing wire rod and rebar - Finishing flats - Intermediate and finishing light sections

PLASTIC/RUBBER-BRICKS-PISTONS

	TYPE	HARDNESS		CHARACTERISTICS	APPLICATIONS
		Shore C	Brinell		
	H1	64/69	450/500	Cast iron rolls with white cast iron cortical coating obtained by casting in metallic shell	- Calenders and mixing mills for rubber, resin, plastic, PVC, paint soap and paper - Cereals and alimentary. - Pistons.
	H2	69/73	500/550	Ni - Cr alloyed cast iron rolls with white cast iron cortical coating obtained by casting in metallic shell.	- Calenders and mixing mills for rubber, resin, plastic, PVC, paint soap and paper - Cereals and alimentary.
	M	69/73	500/550	Cast iron rolls with white cast iron cortical coating obtained by casting in metallic shell.	- Shell for slow speed brick-kiln machine
	SAGO-1	67/70	490/520	Nodular cast iron rolls with prevalent pearlitic structure and free cementite.	- Shell for slow and high speed brick kiln machine
	SAGO-2	69/73	510/550	Nodular cast iron rolls with prevalent pearlitic structure and free cementite. High alloyed in molybdenum	- Shell for high speed brick kiln machine.
	SAGO-3	70/75	520/570	Nodular cast iron rolls with pearlitic-bainitic matrix and free cementite. High alloyed Ni, CR, Mo.	- Shell for high speed brick kiln machine.
	H.Cr	64/73	450/550	High chromium cast iron carbides in pearlitic - bainitic matrix. - special heath treatment	- Shell for high speed brick kiln machine.
	G30	33/40	200/250	Grey cast iron pistons with pearlitic structure.	- Pistons.