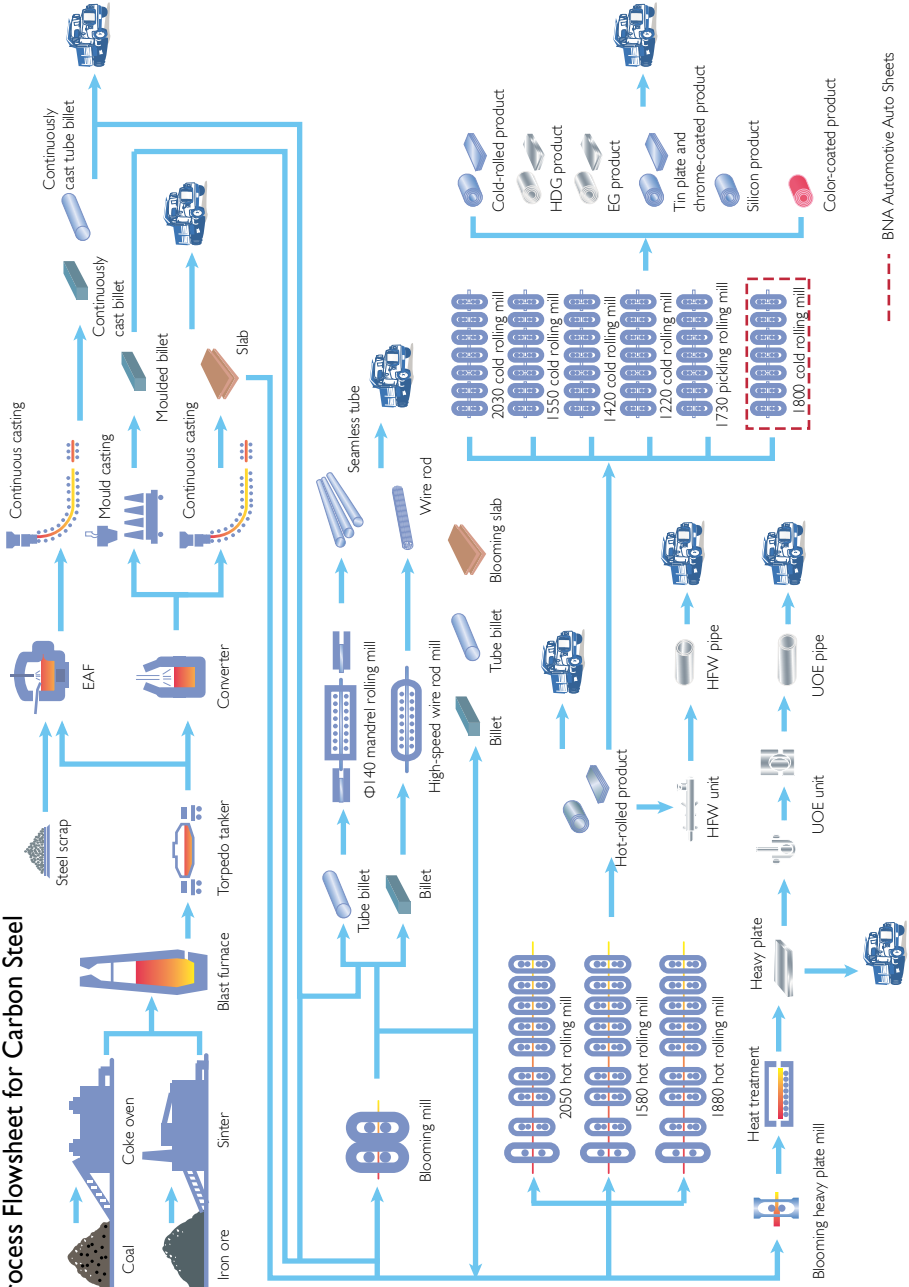


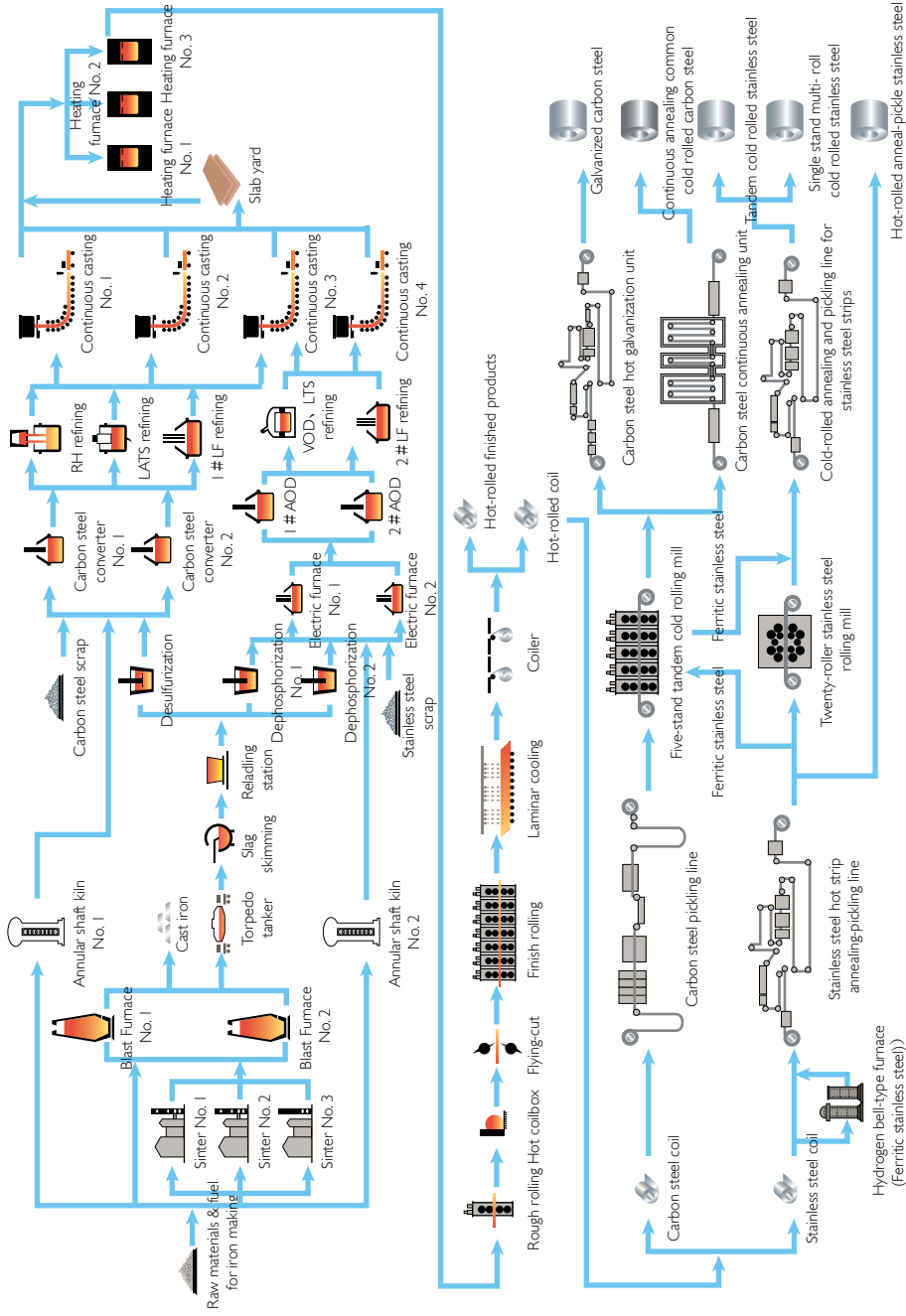
VIII. Production

Main Process Flowsheets Process Flowsheet for Carbon Steel

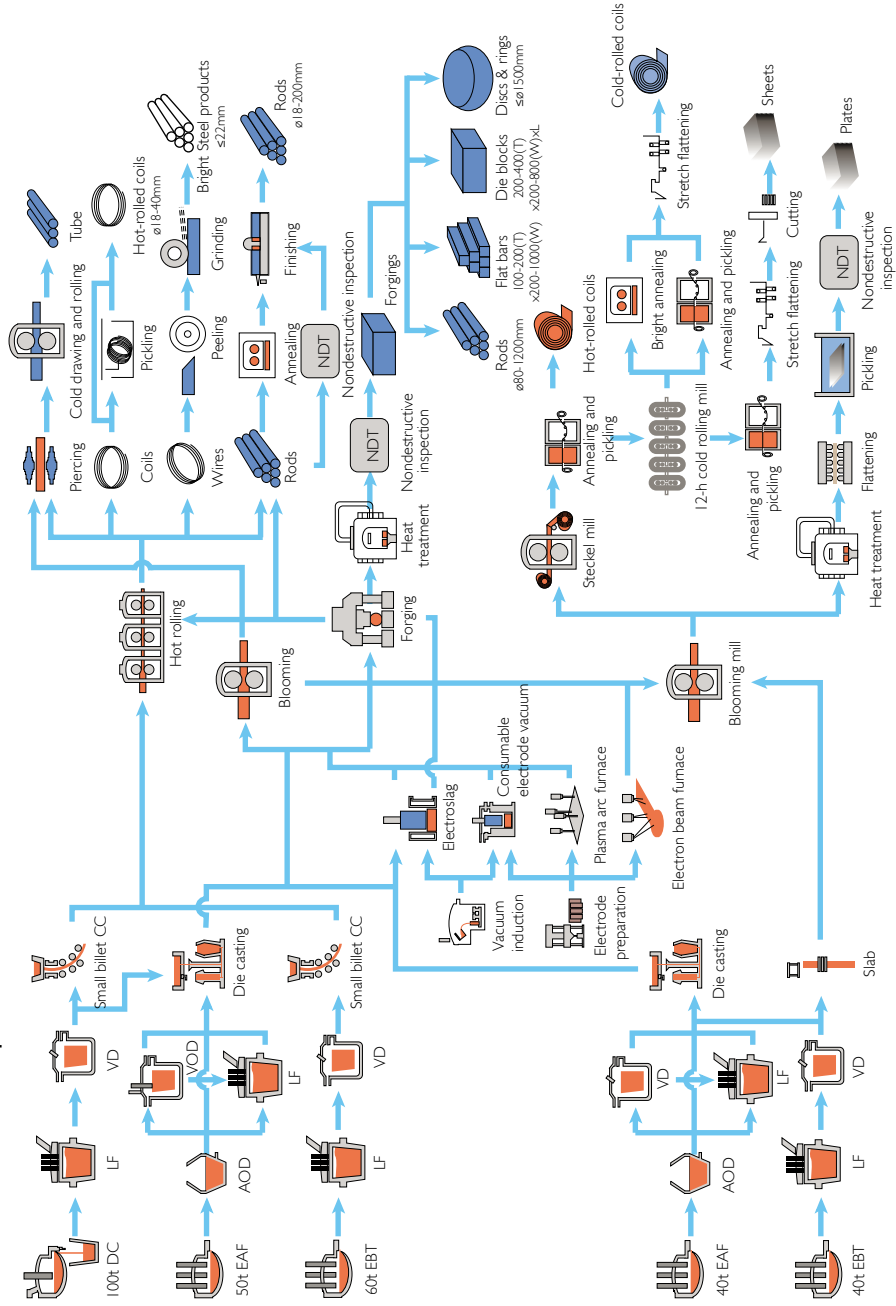


--- BNA Automotive Auto Sheets

Process Flowsheet for Stainless Steel



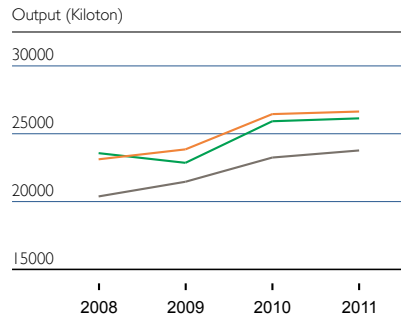
Process Flowsheet for Special Steel



Main Equipment

Main equipment	Qty.	Model No.	Onstream year (Major maintenance)	Capacity (Designed capacity)
Headquarters				
No. 1 blast furnace	1	4966m ³	1985(2008)	3950 kilotons/year
No. 2 blast furnace	1	4707m ³	1991(2006)	3770 kilotons/year
No. 3 blast furnace	1	4350m ³	1994	3500 kilotons/year
No. 4 blast furnace	1	4747m ³	2005	3500 kilotons/year
No. 1 COREX	1	C-3000	2007	1500 kilotons/year
No. 2 COREX	1	C-3000	2011	1500 kilotons/year
No. 1 Converter 300t	1	Top-bottom blowing	1985(2007)	6776 kilotons/year
No. 2 Converter 300t	1	Top-bottom blowing	1985(2007)	
No. 3 Converter 300t	1	Top-bottom blowing	1986(2007)	
250t Converter	2	Top-bottom blowing	1998	2880 kilotons/year
250t Converter	1	Top-bottom blowing	2006	
150t EAF	1	Direct current arc double furnace	1996	1000 kilotons/year
2050mm steel strip hot rolling mill	1	2050mm	1989	4000 kilotons/year
1580mm steel strip hot rolling mill	1	1580mm	1996	2790 kilotons/year
4200mm heavy plate rolling mill	1	4200mm	2008	1600 kilotons/year
5000mm heavy plate rolling mill	1	5150mm	2005	1800 kilotons/year
1880 tandem hot rolling mill	1	1880mm	2007	3700 kilotons/year
2030mm steel strip cold rolling mill	1	2030mm	1988	2100 kilotons/year
1420mm steel strip cold rolling mill	1	1420mm	1997	722.8 kilotons/year
1550mm steel strip cold rolling mill	1	1550mm	2000 (2007)	1400 kilotons/year
1220mm steel strip cold rolling mill	1	1220mm	1991(2007)	770 kilotons/year
1730mm steel strip cold rolling mill	1	1730mm	2008	1800 kilotons/year
High-speed rod rolling mill	1	5-25mm, 120m/s	1999	400 kilotons/year
Seamless tube	1	21.3-177.8mm	1985	500 kilotons/year
Medium-diameter longitudinal welded pipe (HFW)	1	Ø610	2005	300 kilotons/year
Large-diameter longitudinal submerged arc welded pipe	1		2007	500 kilotons/year
Stainless Steel Business Unit				
750 blast furnace	1	750m ³	1991(2001)	577.5 kilotons/year

Main equipment	Qty.	Model No.	Onstream year (Major maintenance)	Capacity (Designed capacity)
2500 blast furnace	1	2500m ³	1999	1750 kilotons/year
No. 1 Converter (Carbon steel)	1	150-ton top blow converter	2004	1116.5 kilotons/year
No. 2 Converter (Carbon steel)	1	150-ton top blow converter	2004	1116.5 kilotons/year
No. 3 Converter (Stainless steel)	1	120-ton argon oxygen decarburizing furnace	2004	750 kilotons/year
No. 4 Converter (Stainless steel)	1	120-ton argon oxygen decarburizing furnace	2004	750 kilotons/year
No. 1 LF Refined-smelting ladle furnace	1	150 tons	2004	1200 kilotons/year
No. 2 LF Refined-smelting ladle furnace	1	120 tons	2005	750 kilotons/year
No. 1 EAF	1	100-ton 3 phase AC EAF	2004	645.6 kilotons/year
No. 2 EAF	1	100-ton 3 phase AC EAF	2005	664 kilotons/year
1780mm steel strip tandem hot rolling mill	1	1780mm	2003	2822 kilotons/year
Five-stand tandem rolling mill	1	Five-stand tandem cold rolling mill	2010	1450 kilotons/year
Twenty-high mill	1	Twenty-high stainless steel mill	2009	130 kilotons/year
Special Steel Business Unit				
Steel-making line	2	60t/100t	2003/1997	900 kilotons/year
Steel wire and rod production line	1	Ø5-Ø50mm	2003	350 kilotons/year
Steel rod production line	1	12~50mm	2005	450 kilotons/year
Blooming line	1	800mm	1984	340 kilotons/year
Meisteel				
No. 2 blast furnace	1	1280m ³	2004.4	1070 kilotons/year
No. 4 blast furnace	1	3200m ³	2009.5	2464 kilotons/year
No. 1 Converter	1	150T	1999	1200 kilotons/year
No. 2 Converter	1	150T	1999	1200 kilotons/year
No. 3 Converter	1	150T	2008	1200 kilotons/year
1422 Tandem hot rolling line	1	Six-stand 1422 tandem hot rolling line	1994	3000 kilotons/year
1420 cold rolling	1	1420 pickling rolling unit	2009	800 kilotons/year



Output

	2008	2009	2010	2011
				Unit: Kiloton
Pig iron	20,392	21,472	23,254	23,776
Crude steel	23,124	23,856	26,452	26,641
Finished products and billets				
Carbon steel	21,816	20,864	23,616	23,895
HRC ^[Note]	8,240	5,827	6,666	6,747
Pickled coil	768	719		
Heavy plate	1,859	2,292	2,220	2,286
CRC	3,692	4,073	4,912	4,852
Hot-dip galvanized steel	1,404	1,793	2,574	2,791
Electro-galvanized steel	524	612	757	801
Color-coated	606	571	609	686
Tin plate	655	554	900	943
Chrome-coated	70	111	168	168
Electric steel	987	1,165	1,289	1,242
Tube	1,445	1,679	1,717	1,546
Billet	577	481	777	867
High speed wire rod	525	471	602	585
Rebar	466	517	425	380
Stainless steel	948	1,258	1,341	1,298
HRC	489	648	589	456
CRC	437	602	750	836
Special steel	815	743	970	946
Total of finished products and billets	23,578	22,865	25,927	26,139

Note: The HRC in the table includes, as in the tables below, the pickled coil.