

# The Making, Shaping and Treating of Steel®



**Fe**  
IRON

COAL  
↓  
COKE

LIME  
↑  
LIMESTONE

ELECTRIC ARC FURNACE

ARGON OXYGEN DECARBURIZATION

IRONMAKING  
BLAST FURNACE

STEELMAKING  
BASIC OXYGEN FURNACE

REFINING STATION

SECONDARY REFINING

THIN SLAB

CASTING

PICKLED  
AND OILED

COLD  
ROLLED

SHAPING AND TREATING

ANNEALED

TEMPER  
ROLLED

STRIP

GALVANIZED  
TIN PLATED

ROD

WIRE

BILLET

CONCRETE  
REINFORCING  
BARS

HOT ROLLED  
BARS

COLD DRAWN  
BARS

RAILS

STRUCTURAL  
SHAPES

NEAR NET SHAPE

TUBE  
ROUNDS

SEAMLESS  
PIPE

INGOT CASTING

FORGINGS

PLATES

WELDED  
PIPE

HOT ROLLED  
STRIP

SLAB

ALLOYS

LADLE METALLURGY FURNACE

DIRECT REDUCTION

RECYCLED  
SCRAP

VACUUM  
DEGASSING

The molten steel's chemistry is adjusted to exact chemical compositions through any of the secondary refining processes. The refined steel is solidified, typically by continuous casting machines. The solidified steel is further processed into semi-finished and finished product by various rolling and finishing processes. The finished product is then utilized by the many manufacturers that incorporate steel in their products.

The MSTs Steel Wheel is a graphical representation of the processes required to convert raw materials into finished steel products. The process starts in the center with the three fundamental ingredients (iron ore, coal and limestone) needed to produce molten iron. The molten iron is mixed with recycled steel scrap and further processed in either an EAF or BOF to produce molten steel. The molten steel's chemistry is adjusted to exact chemical compositions through any of the secondary refining processes. The refined steel is solidified, typically by continuous casting machines. The solidified steel is further processed into semi-finished and finished product by various rolling and finishing processes. The finished product is then utilized by the many manufacturers that incorporate steel in their products.