



HARRY BREARLEY

Stainless Journey of 100 Years

It has been a long run for stainless steel as it completes 100 years of its existence. This year across the globe 100 years of stainless steel is being observed. It was way back in 19th century when an England based scientist Harry Brearley discovered stainless steel during his research. Today from needle to the gleaming exterior of a building which we see are made up of stainless steel.

Stainless steel – is a common word known to everyone which is an iron based alloy made of chromium, nickel, molybdenum due to which metal fights

with corrosion. Stainless steel has aesthetic appeal and also strength.

The corrosion resistance of iron-chromium alloys was first recognized in 1821 by French metallurgist Pierre Berthier, who noted their resistance against the attack by some acids and suggested their use in cutlery. Metallurgists of the 19th century were unable to produce the combination of low carbon and high chromium which is found in most modern stainless steels, and the high-chromium alloys they could produce were too brittle to be practical.

Also in 1912, Harry Brearley of the

Brown-Firth research laboratory in Sheffield, England, while seeking a corrosion-resistant alloy for gun barrels, discovered and subsequently industrialized a martensitic stainless steel alloy. The discovery was announced two years later in January 1915 in an article in The New York Times. The metal was later marketed under the 'Staybrite' brand by Firth Vickers in England and was used for the new entrance canopy for the Savoy Hotel in London in 1929. Brearley applied for a US patent during 1915 only to find that Haynes had already registered a patent. Brearley and Haynes pooled their funding and with a group of investors formed the American Stainless Steel Corporation, with headquarters in Pittsburgh, Pennsylvania.

In the beginning stainless steel was sold in the US under different brand names like 'Allegheny metal' and 'Nirosta steel'. Even within the metallurgy industry the eventual name remained unsettled; in 1921 one trade journal was calling it "unstainable steel".

Gradually with new development and new technology the stainless steel industry picked up over the time. Today stainless industry is worth crores of rupees which set new trends of replacing steel in different sectors of the industry.

YEAR	HISTORICAL MILESTONES
1913	In Sheffield, England, Harry Brearley discovers and casts the first commercial martensitic chromium stainless steel, while seeking a corrosion-resistant alloy for gun barrels
1919	In England, cutlers introduce stainless steel cutlery, surgical scalpels, and tools
1960	Allegheny Ludlum is first to offer bright-annealed stainless steel in large volume
1966	Allegheny Ludlum patents Type 409 stainless steel for automotive exhaust systems
1969	Stainless steel in NASA's Saturn V rockets helps land Apollo 11 astronauts on the moon
1970	Commercial and residential appliances begin using more stainless steel
1984	Allegheny Ludlum receives patent for AL 29-4C superferritic stainless steel. High-efficiency gas furnaces use the alloy
1986	First use of Allegheny Ludlum patented AL-6XN superferritic stainless steel for firewalls on offshore oil platforms
2006	Massive subsea oil flow line system in Malaysia uses ATI 2003 lean duplex stainless steel
2007	World's largest stainless steel roof for New Doha International Airport in Qatar uses ATI'03
2012	Stainless steel prices showed the tendency of "rise before fall and mobile descending resulting in a downward trend for most of the traditional stainless steel producing countries
2013	Stainless steel industry also affected by global economic crisis which has pushed the world Industry into recession as demand for steel has contracted sharply