

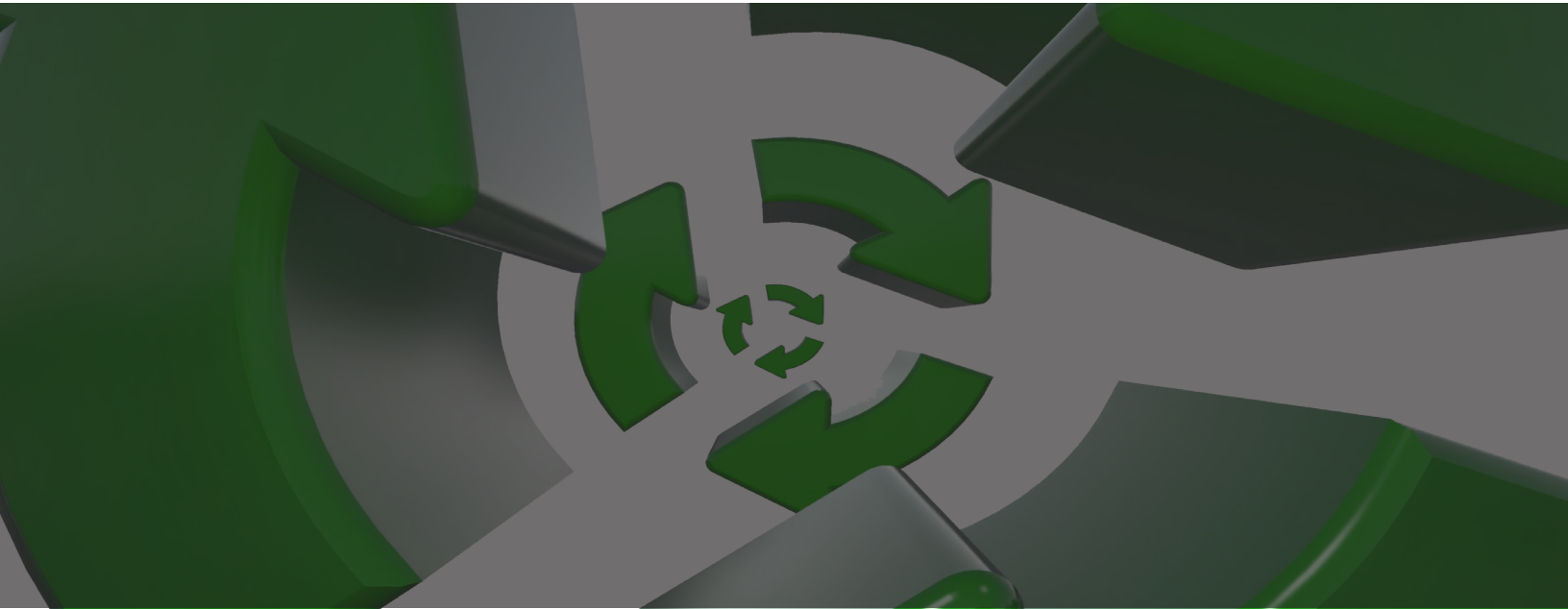
## Extraordinary Recycling Efficiency



Approximately 60% of the world's stainless steel production contains recycled material. In the United States the average is closer to 75% of all stainless steels. Some products will have a lower recycled content while others will be higher, based on melting location, grade and product form. The relatively high value of stainless steel scrap assures that the bulk of discarded items are quickly re-melted and not sent to a landfill. Some recycled materials, like rubber, plastic and painted aluminum that is not de-coated, suffer quality degradation or have limitations regarding suitability for certain applications. Recycled stainless steel, however, has no such limitations.

Much has been written in recent years regarding stainless steel's recycled content. The LEED® initiative has encouraged disclosure of producers' recycling statistics. These statistics are impressive with the average global producer figure achieving 60% recycled content, according to the International Stainless Steel Forum (ISSF). The Specialty Steel Industry of North America (SSINA) states further that US producers of stainless steel operate in the 75 to 85% range. It is to the stainless steel manufacturers' advantage to maximize the use of scrap in the process of making stainless steel. Given the growth of the use of stainless steel and its long life cycle, estimated by the American Institute of Steel Construction (AISC) to average 20-30 years for all stainless steel parts, there simply isn't enough scrap available at the present time to achieve a global statistic greater than 60%.

While these high recycled content statistics are remarkable, it's become apparent that the aspect of recyclability of stainless steel is not thoroughly understood. We address recyclability in three areas. First, stainless steel's suitability to be recycled, its likelihood of occurrence, and the quality of recycled stainless steel.



In terms of suitability for recycling, stainless steel is a no-brainer. Virtually all grades of this material can be readily melted into new heats that can meet essentially all downstream application requirements. The high melting point of stainless steel facilitates the removal of coatings and contaminants within the melting process, making for an efficient direct charge of various scrap materials, thereby minimizing the extent to which these materials need to be prepared for recycling.

The relatively high value of nickel, chrome and molybdenum units within stainless steel scrap virtually assures recycling is conducted and done so on a timely basis. Given that 60% of the world's production of stainless steel comes from scrap, there is a vast infrastructure of scrap recycling businesses around the world that facilitate the process of recycling. Specifiers of stainless steel can be confident that at some future date, when the useful life of the stainless steel parts come to an end, that the valuable resource intrinsic in the stainless steel material itself will not be wasted. Rather, the value of this discarded stainless steel part itself is worth the trouble to see that it is sold to a scrap dealer that virtually assures prompt and efficient recycling takes place.

Lastly, it seems some people are under the impression that stainless steel once recycled suffers quality degradation. This false impression may exist because quality suffers in the recycling of many other building products, including plastics, aluminum that is not de-coated, and rubber products. Again, since stainless steel at large has such a high recycled content, it is impractical to suggest the vast majority of stainless steel produced ends up in applications that can tolerate substandard quality. Once again it is the high melting point, which drives out impurities in the furnace and again in an AOD refining operation, that assures the cleanest and most sophisticated chemistries of stainless steel can be obtained using recycled scrap.

In summary, stainless steel building components are capable of being permanent as long as the building stands. There's no need to re-paint them or replace them, unless unexpected damage occurs. When the building is eventually torn down, it is virtually assured the decommissioned parts will be sent swiftly into a steel mill's melt shop to be born again into new products that will have a very long life cycle.