

HOT STRIP MILL OPERATIONS, Volume VII

ROLLED in SCALE

PREFACE

This is the seventh volume on hot strip mill operations. The first book was on **Coiling**, the second one on **Roll Cooling, Shape, and Rolling Problems**, the third on **Roll Wear, Broken Rolls, and Roll Life**, the fourth on **Build Up (Ridges) and other “Narrow Shape Distortions”**, the fifth on **Scale** as an introduction volume on a series of three books on **Scale, Descaling, and Rolled in Scale**; and a revision in 2009 of the book **“Coiling (Revised 2008)”** was completed. This third and final book in the “scale” series looks at rolled in scale defects as to their identification, classification, cause, and corrective action to minimize the rolled in scale incidents; and if rolled in scale occurs to resolve the problem quickly.

As with the other volumes, the references and acknowledgments give credit to the most important contributors to this work. The author has read so many articles on scale, descaling, and rolled in scale some credits may be overlooked; but blame this on my old age now in my 83rd year causes my memory to vary a little. It is again very important to recognize the help of many hot strip and plate mill operators, engineers, metallurgists, the Association of Iron & Steel Engineers, the Iron & Steel Society, the Rolling Mill Committee of the American Iron & Steel Institute, and the many hourly workers and mill rollers, which enhanced the author’s view of this area of hot strip mill rolling during the 55 years spent in hot rolling mills.

This volume has these objectives [1] **identification of rolled in scale defects**, [2] **quickly identify the potential source of the scale**, and [3] **provide solutions for each type of rolled in scale**. Volume VII concentrates on **Rolled in Scale** on hot strip and plate mills operating practices to eliminate the many types of rolled in scale defects, but much of the same things apply to structural, bar, and pipe mills. If these objectives can be accomplished, the hot mill operators can concentrate their efforts on reheat furnace practices, descaling, and temperature control in the rolling mill to eliminate rolled in scale to enhance the surface and microstructure quality produced on the hot strip and plate mills.

The success of the first six volumes on Hot Strip Mill Operations allows the continuation of this series with its many new and different views on rolled in scale. The steel industry of America has produced some of the best technology in the modern world of steel rolling and processing. This seventh volume hopes to contribute more back to the hot strip and plate mill operators some of the knowledge their predecessors imparted to the author in his many travels through hot strip and plate mills around the world.

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