



Smithsonian

*National Museum of American History Kenneth E. Behring Center*

## Guide to the Sendzimir Mill Video Documentation

NMAH.AC.0605

Alison Oswald

1997

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## Collection Overview

<b>Repository:</b>	Archives Center, National Museum of American History
<b>Title:</b>	Sendzimir Mill Video Documentation
<b>Date:</b>	1996-12
<b>Identifier:</b>	NMAH.AC.0605
<b>Creator:</b>	Liebhold, Peter (Interviewer) Jerome and Dorothy Lemelson Center for the Study of Invention and Innovation. (Creator)
<b>Extent:</b>	1 Cubic foot (3 boxes) 27 Video recordings
<b>Language:</b>	English .

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## Administrative Information

### Immediate Source of Acquisition

Created by the Lemelson Center for the Study of Invention and Innovation and Peter Liebhold of the Division of History of Technology in December 1996.

### Ownership and Custodial History

Transferred from the Division of Work and Industry to the Archives Center July 8, 1997.

### Related Archival Materials

Mill's central control pulpit in collection of the Division of History of Technology (now Division of Work and Industry).

### Processing Information

Collection processed by Alison Oswald, 1997.

### Preferred Citation

Sendzimir Mill Video Documentation, December 1996, Archives Center, National Museum of American History.

### Restrictions on Access

Collection is open for research but the original videos are stored off-site and special arrangements must be made to work with it. Contact the Archives Center for information at [archivescenter@si.edu](mailto:archivescenter@si.edu) or 202-633-3270.

### Terms Governing Use and Reproduction

Collection items available for reproduction, but the Archives Center makes no guarantees concerning copyright restrictions. Other intellectual property rights may apply. Archives Center cost-recovery and use fees may apply when requesting reproductions.

## Biographical / Historical

Tadeusz Sendzimir, a Polish émigré, came to the United States in 1939 to work at Armco Steel in Middletown, Ohio. Sendzimir had earlier developed radical processes for galvanizing steel (1931) and cold rolling steel (1933). Sendzimir's rolling process departed dramatically from the multi-stand continuous process developed by John Tytus Armco (1924). Instead of using multi-stand four high rolls Sendzimir's mill used a clustered nest of rolls, like two inverted pyramids (1-2-3-4 configuration). A few Sendzimir Mills were built in Europe before WW II stopped construction of experimental steel plants. While Sendzimir was working at Armco, Signode Steel in Chicago ordered on of his "Z" Mills (Sendzimir Mills are called "Z" Mills in the United States). Signode used the mill to successfully roll low carbon steel for strapping and more importantly for rolling ultra thin silicon steel (for radar units) during WW II.

Stainless steel, first developed around 1915, is made by alloying carbon steel with chromium to make a metal that is highly resistant to corrosion. Stainless steel is relatively hard and is difficult to weld, cut, or drill. The physical properties of stainless steel are important to understanding why the "Z" mill has been so successful. Stainless steel was traditionally rolled in sheets on a four high reversing mill (with a Z mill much larger strips forming rolls can be made). Because stainless steel work hardens quickly it cannot be run through a multi-stand mill easily. One advantage of the a Z mill is that the small work rolls provide a sharper bite, greater pressure, and less roll deflection than a four high mill and thus can roll stainless top gage without having to anneal (soften) the roll.

For more on Sendzimir as an inventor see *Steel Will: The Life of Tad Sendzimir*, Hippocrene Books, New York, 1994 and by Vanda Sendzimir or "My Father the Inventor" in *Invention and Technology*, Fall 1995, p. 54-63 also by Vanda Sendzimir.

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## Scope and Contents

Inventor Tadeusz Sendzimir, a Polish immigrant, designed and installed the first "Z" Mill for cold rolling stainless steel in the United States. The videohistory documents the story of a new approach to the rolling process of steel technology transfer and consumer demand for a new product; video documents the mill in operation and interviews with active and retired workers.

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## Arrangement

The collection is divided into three series.

Series 1: Original Videotapes, 1996

Series 2: Master Videotapes, 1996

Series 3: Reference Videotapes, 1996

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## Names and Subject Terms

This collection is indexed in the online catalog of the Smithsonian Institution under the following terms:

Subjects:

- Factories -- 20th century
- Inventions -- 20th century
- Inventors -- 20th century
- Steel -- Cold working -- 20th century

Steel industry and trade -- 1930-2000  
Steel, Stainless -- 20th century

Types of Materials:

Interviews -- 1980-2000  
Oral history -- 1990-2000  
Videotapes -- 1990-2000

Names:

Sendzimir, Tadeusz, 1894-1989  
Washington Steel Mill

## Container Listing

### Series 1: Original Videos

*Box 1 (OV)*

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## Series 2: Master Videos

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## Series 3: Reference Videos

*Box 4*

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