

KAWASAKI STEEL TECHNICAL REPORT

No.36 (July 1987)

Overseas Engineering Operations

Construction of Cold Rolling Plant for Tin Mill Black Plate -Ton Yi Industrial Corp. in Taiwan-

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Synopsis :

Kawasaki Steel received an order for a cold rolling plant from Ton Yi Industrial Corp. in Taiwan. The plant was constructed in a short term of 32 months and its operation started in Oct. 1995. The designed annual production capacity of tin mill black plate is 600 000 t. The equipment supplied by Kawasaki Steel comprises six main production lines, including a pickling-tandem continuous line, a continuous annealing line, etc., and ancillary equipment such as water treatment and acid regeneration, and a total production control system was also supplied. This report discusses the methods used to shorten the planning period in each construction stages and an outline of the equipment.

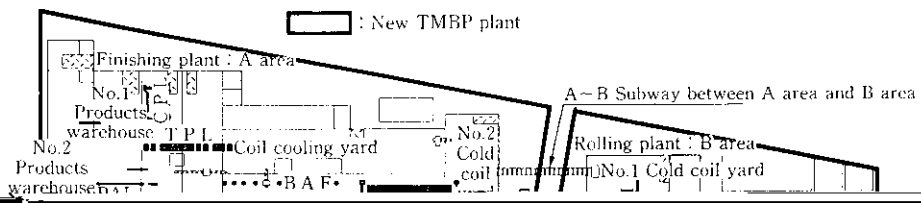
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The body can be viewed from the next page.

Construction of Cold Rolling Plant for Tin Mill Black Plate —Ton Yi Industrial Corp. in Taiwan—*

Synopsis:

Kawasaki Steel received an order for a cold rolling



Calendar month	1992		1993			1994				1995				1996	
	10	1	4	7	10	1	4	7	10	1	4	7	10	1	4

She participated in the project in the initial stage of

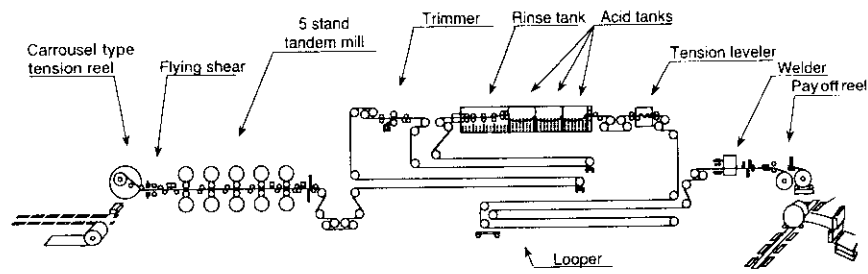
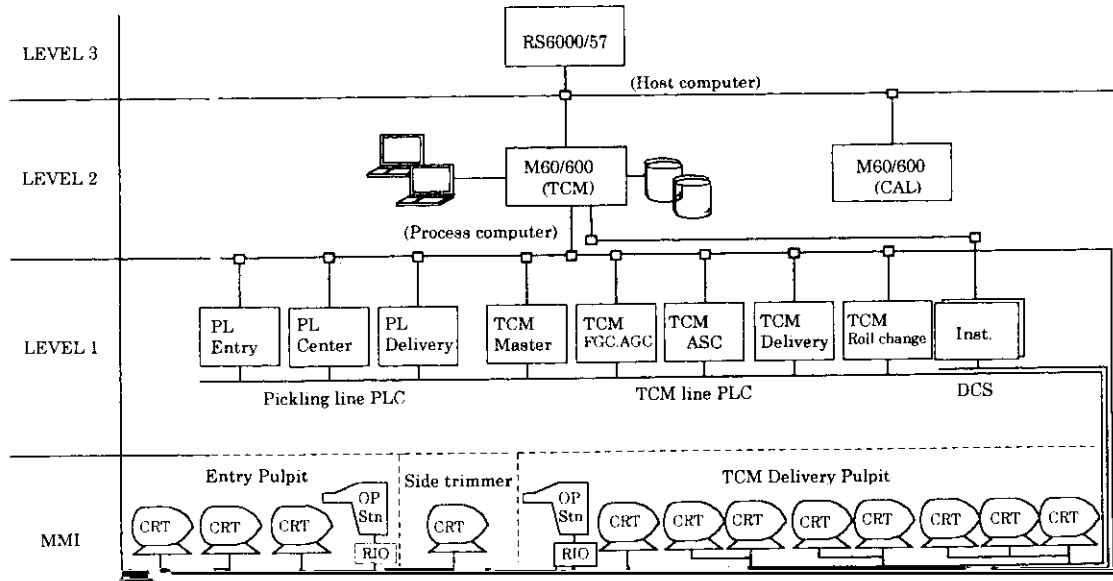


Fig. 4 Outline of PL-TCM



HC

P/R & HC

Fig. 5 System configuration of PL-TCM

Table 1 Main specifications of PL-TCM

The descaling equipment is composed of a tension lev-

4.2 Continuous Annealing Line (CAL)

4.2.1 Outline

CAL is a continuous high-speed processing line comprising electrolytic cleaning equipment, an anneal-

4.2.2 Equipment composition

The general composition of the CAL is shown in Fig. 6.

4.2.3 Main specifications

has a capacity for producing 426 000 t/y of high-quality TMBP (Photo 2).

The strip speed in the furnace is 800 mpm, which is among the world's highest speeds. To achieve this speed, the following latest techniques were introduced.

- (1) Arrangement of a tension leveler on the entry side of the furnace
- (2) High-accuracy tension control

Table 2.

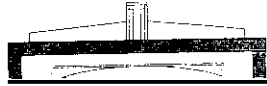
4.2.4 System configuration

The system configuration is basically the same as PL-TCM shown in Fig. 5 and the system is composed of an H/C, P/Cs and PLCs.

4.2.5 Features of Furnace Equipment

The furnace is composed of the annealing

Table 5 Main specifications of ECL



Item	Specification
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equipment

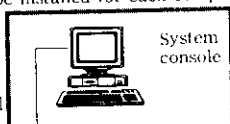
System & main component	Capacity	Specification
	Industrial water treatment (m ³ /h)	250
	Potable water treatment (m ³ /h)	50

- cope with hardware problems.
- (5) LAN (local area network), which permits high-speed data transmission, is used.
- (6) Techniques developed at Kawasaki Steel (K4GL, VICS) are used for development support and commu-

(To be installed for each computer)

Execution control

Development and
stand-by execution control



CRT
(includes 3 terminals
for maintenance)



Printer
(includes 1 printer
for maintenance)



Label printer
(includes 1 printer
for spare)



Hi-speed printer

