
Instrumentation & Computer System of Kawasaki Steel Multipurpose Continuous Annealing Line

:

1980 7

(1)

(2)

DDC

DDC

(3) ITV

CPC

Synopsis :

The multipurpose continuous annealing line at Chiba Works, Kawasaki Steel Corporation (KSC) started its operation in July 1980. The computer and instrumentation system of the line has the following main features: (1) Hierarchy system structure is adopted to meet multipurpose operation which needs various types of processing. It can accomplish proper functional assignments. (2) The process computer is used for the whole process control, including strip temperature control and weld point tracking. Supervis

多目的連続焼鈍ラインの計装・計算機システム
 Instrumentation & Computer System of Kawasaki Steel Multipurpose
 Continuous Annealing Line

増野 豊彦*
 Yasuhiko Mashino

田宮 稔士**
 Toshio Tamiya

下西 幾二***
 Ikuji Shimonishi

柳島 章也****
 Fumiya Yanagishima

下山 雄二*****
 Yuji Shimoyama

田原 紘一*****
 Koichi Tahara

佐藤 邦昭*****
 Kuniaki Sato

Synopsis:

The multipurpose continuous annealing line at Chiba Works, Kawasaki Steel Corporation (KSC) started its operation in July 1980. The computer and instrumentation system of the line has the following main features:

(1) Hierarchy system structure is adopted to meet multipurpose operation which needs various types of processing.

It can accomplish proper functional assignments.

(2) The process computer is used for the whole process control and the supervisory computer is used for the

point tracking. Supervisory business computer is charged of production control, and DDC system for electrical control and DDD system for instrumentation are in charge of individual loop control. Data are transmitted between these computers, etc., by the data transfer method.

(3) Intrafurnace steering roll CPC devices by the ITV method and radiation pyrometers for measuring strip temperature are provided as special devices. They are aimed at stabilizing operation, improving control accuracy and controlling product quality.

計装・計測システム

つた。

プロセス計算機を中心に、上位にビジネス計算

本報は、KM-CALの計装・計算機システムと 機、下位に電気DDC、計装DDCを配したハイア

炉温、冷却ファン使用台数、冷却風量を制御する。

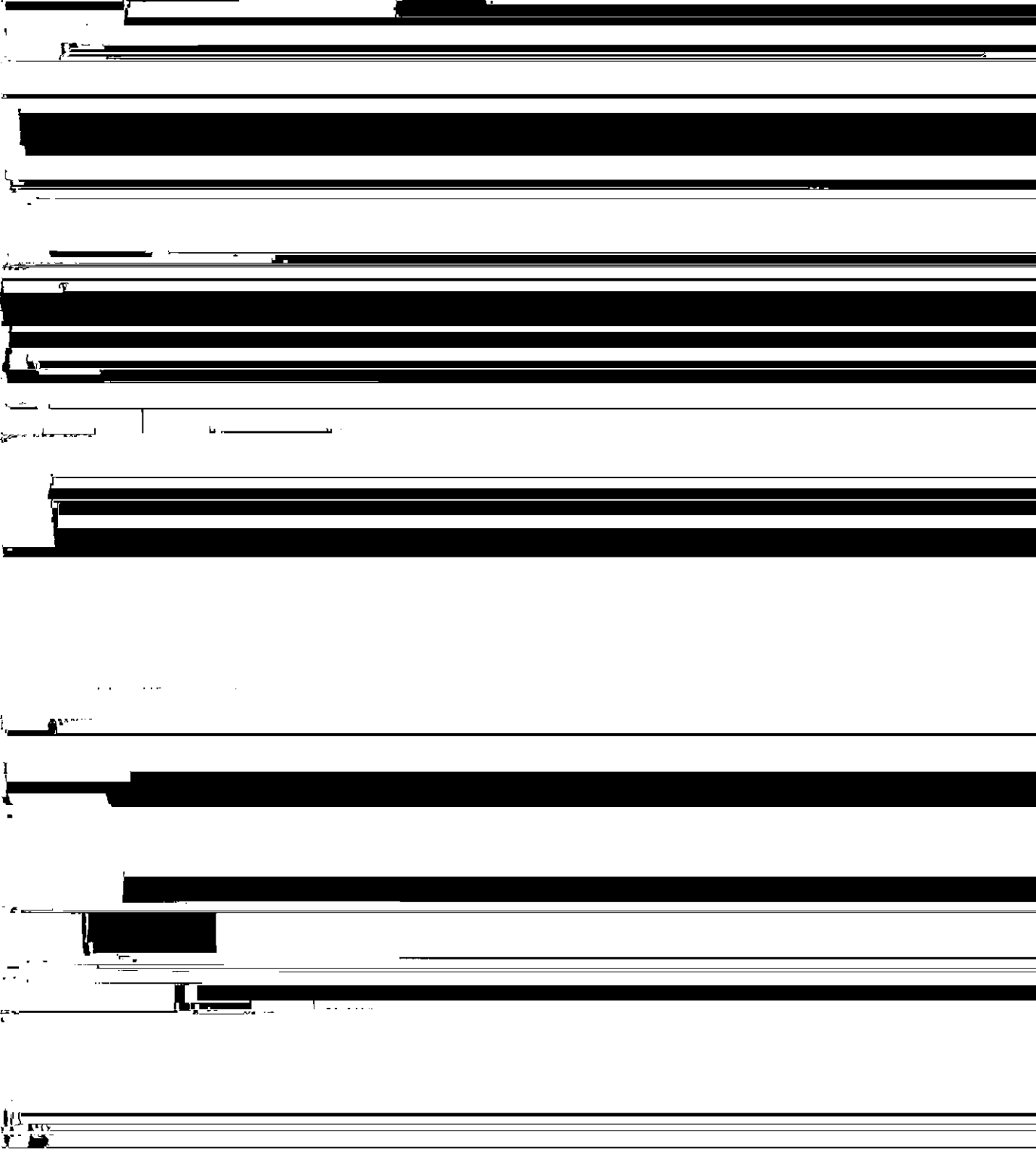
制御フローを Fig. 4¹⁾ に示す。加熱帯、加熱帯の制御演算には伝熱理論を基礎とした数式モデル

(2) ストリップ張力

ストリップ張力は、炉内でのストリップの蛇行にトス・トート・バックル、破断を防止するため重要

Master computer (MC)

Data processing



たステアリングロールを制御してストリップの蛇行量に応じた蛇行修正を行なうものである。

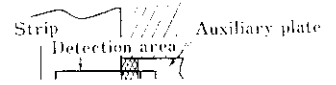


Table 3 Specification of intrafurnace CPC device

Item	Specification
EE lens	Focal distance : 25mm Maximum aperture : F1.4 Input level (calibrated) : 0.5-1.0V (p-p) Angle of view horizontal : 28.5°