# Abridged version

### KAWASAKI STEEL TECHNICAL REPORT

No.39 (October 1998)

Electrical Steel

# Shear Capacity of CFT Column and Precast Wall Structure

Takashi Iwasaki, Shinya Inaoka, Yukio Murakami, Koji Morita

## Synopsis:

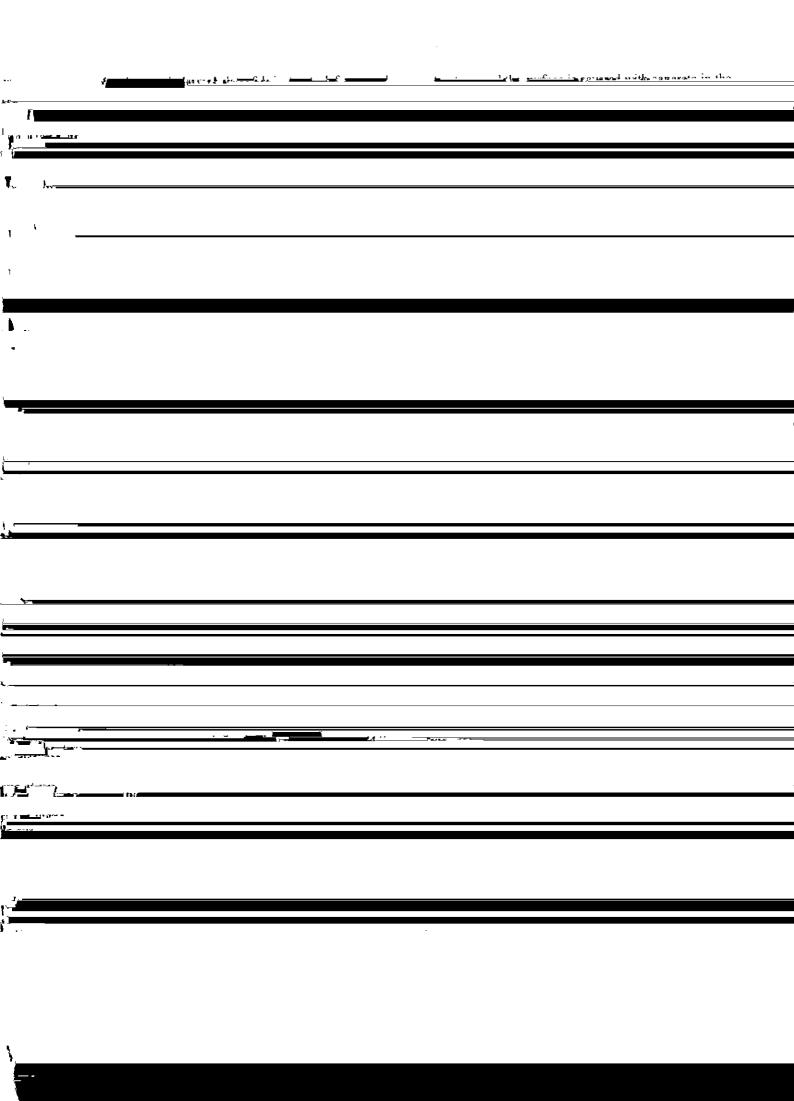
The CFT-PCa earthquake resistant wall structure developed for application in the construction of middle-to high-rise multi-family housing complexes consists of concrete filled tubes (CFT) columns and precast reinforced concrete (PCa RC) earthquake resistant walls. Cyclic shear bending tests were conducted on this structure using one-third scaled three-storied models which utilized two different types of connections between the columns and walls. The models of the first type, referred to as "concrete filled type" models, were constructed such that a plate girder was embedded in each wall. After the girders plates are bolted to the columns, the vertical space left between the columns and walls was filled with concrete. Models of the second type, known as "bolt type" models, were built such that each wall was embedded with a T-bar on which reinforcing bars were welded. The T-bars were then bolted to gussets fitted to the columns. Tests confirmed that both types of models demonstrate sufficient strength and energy absorption capacity. Studies of design formulas served to determine that strength can be estimated assuming such structures as an arch mechanism plus inter-story arch mechanism in the case of the concrete filled type of model and as a truss mechanism plus inter-story arch mechanism in the case of the bolt type of model structure.

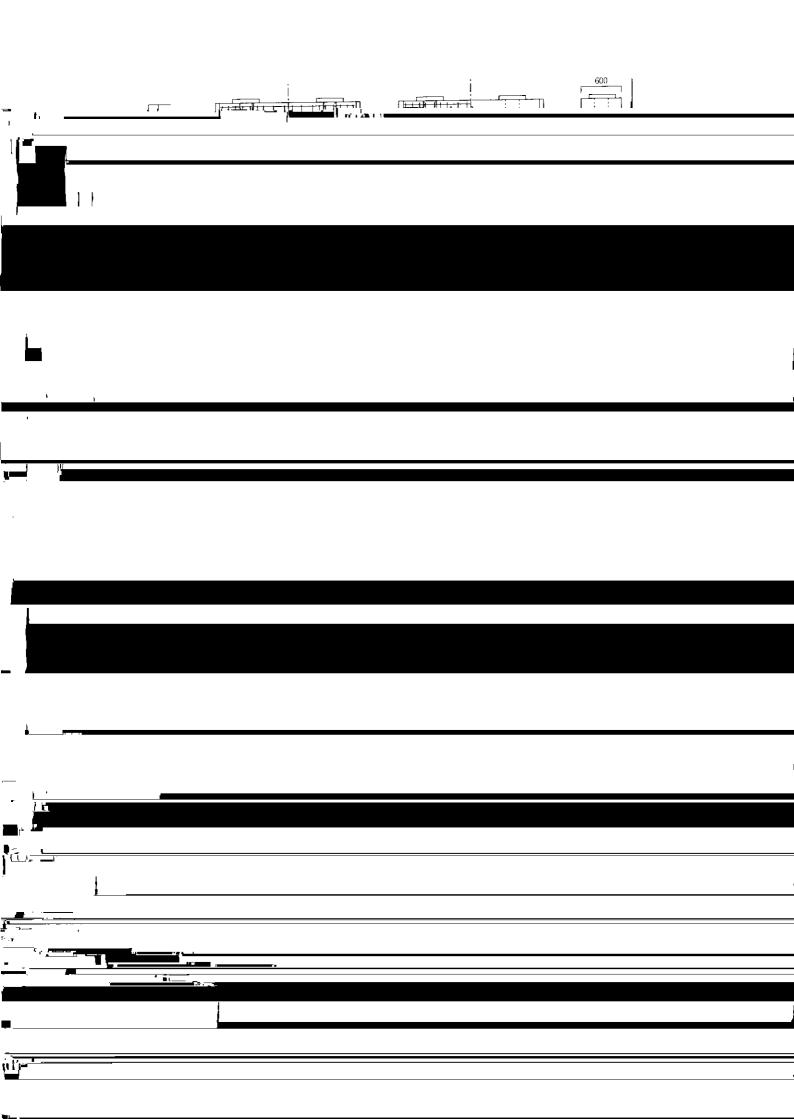
(c)JFE Steel Corporation, 2003

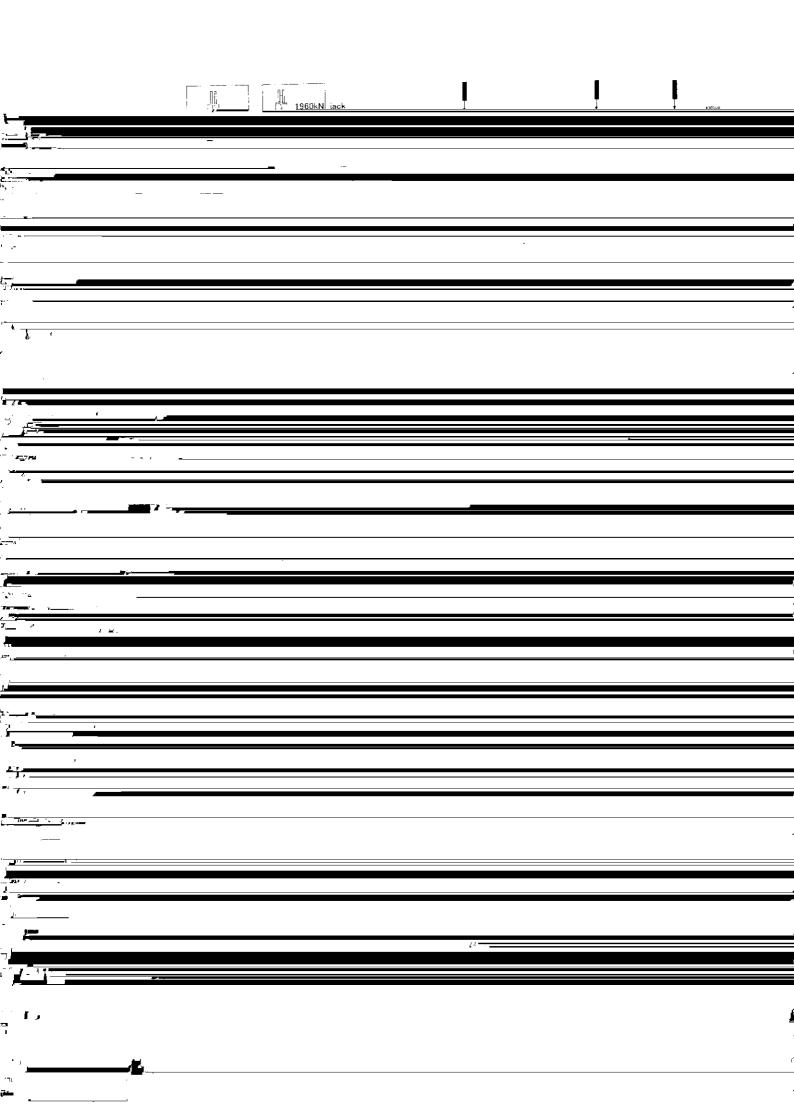
The body can be viewed from the next page.

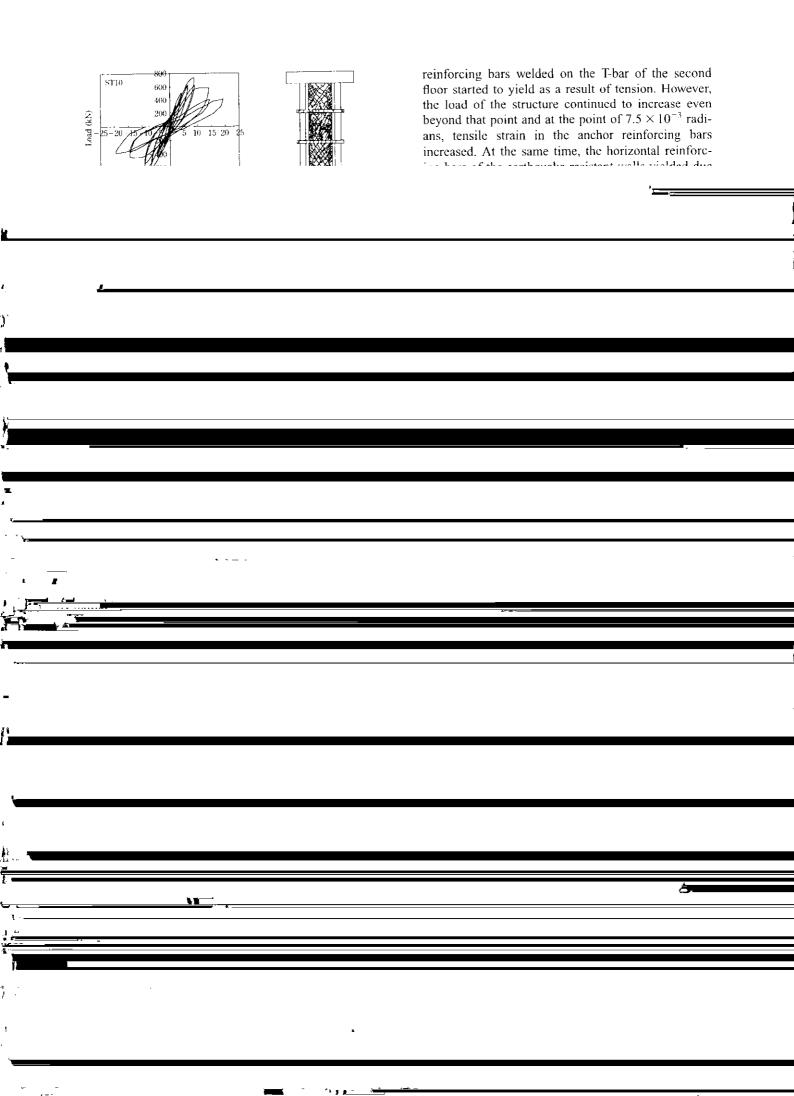
# Shear Capacity of CFT Column and Precast Wall Structure\*

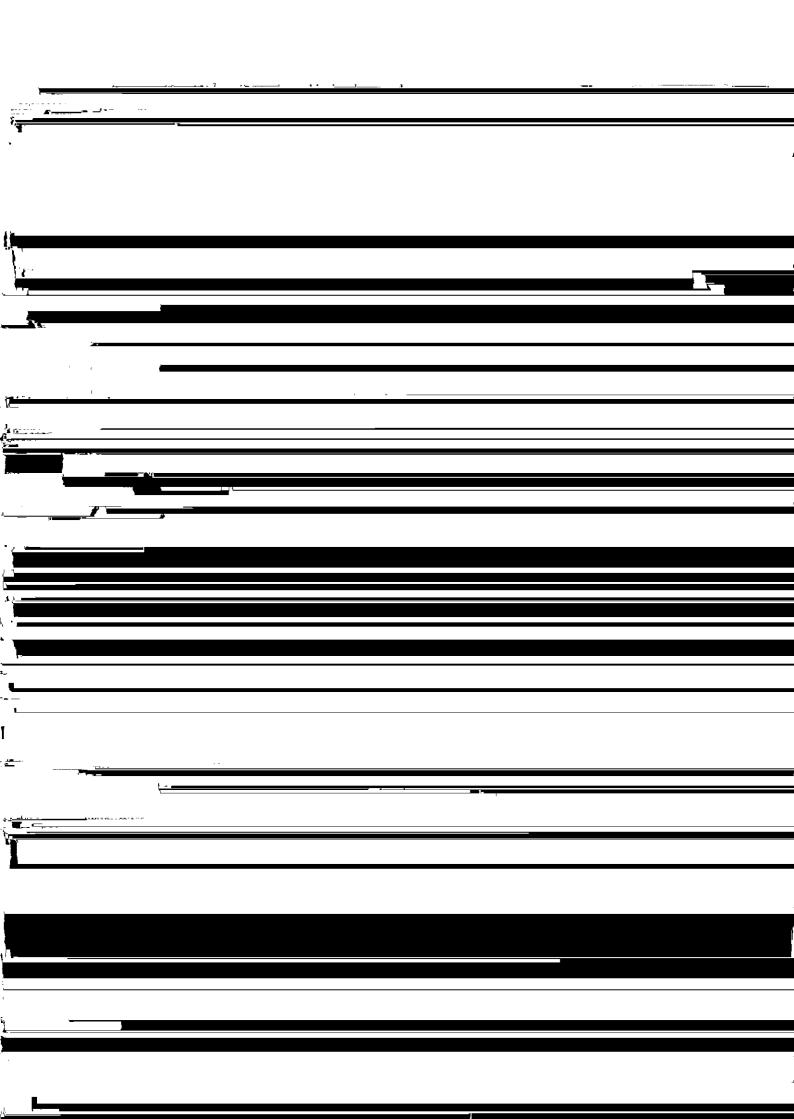
	Synopsis:		
	The CFT-PCa earthauake resistant wall structure		
and a second second			
, F &			
Processing the second s			
, <i>1</i>			
'			
1			
· · · · · · · · · · · · · · · · · · ·			
J			
<b>!</b>			
·			
· · · · · · · · · · · · · · · · · · ·			
ACAS W-16			
<u></u>			
A			
4			
-			
<u>.</u> <u>(</u>			
<u> </u>			
•			



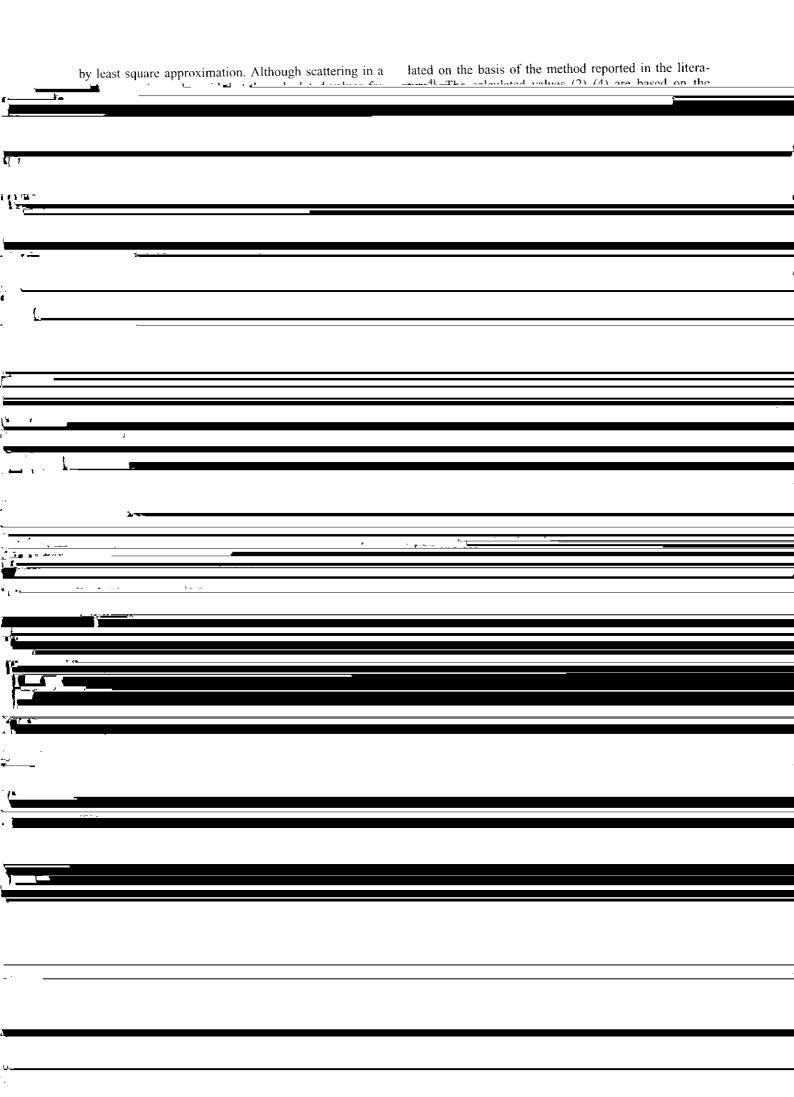














	umn into consideration	(3) Maximum strength car	n be accurately estimated
- govern			
1			
1			
d.,			
7			
<u>. 1'</u>			
,			
	En state of the st		
Topic in the second sec			
Y			
,			
. }			
<b>/</b>			
·		<u> </u>	
estation — — — ·			