Center for Fire Science and Technology, RIST, TUS Member
(Research Center for Fire Safety Science as a Joint Usage / Research Center)

[Scheduled periods: April 1.2004～]

Director	Y. Matsubara	R. Inst. of Sci. and Tech.	Center for Fire Sci. & Tech.	Professor
Professor	I. Hagiwara	R. Inst. of Sci. and Tech.	Center for Fire Sci. & Tech.	Professor
	K. Ikeda	R. Inst. of Sci. and Tech.	Center for Fire Sci. & Tech.	Professor
	K. Kobayashi	R. Inst. of Sci. and Tech.	Center for Fire Sci. & Tech.	Professor (Part time)
	A. Sekizawa	R. Inst. of Sci. and Tech.	Center for Fire Sci. & Tech.	Professor (Part time)
	K. Matsuyama	G. Sch. of Sci. and Tech.	Dept. of Global Fire Sci. & Tech.	Professor
	M. Mizuno	G. Sch. of of Sci. and Tech.	Dept. of Global Fire Sci. & Tech.	Associate Professor
	H. Kinugasa	F. of Science and Technology	Dept. of Architecture	Professor
	Y. Ohmiya	F. of Science and Technology	Dept. of Architecture	Professor
	M. Kanematsu	F. of Science and Technology	Dept. of Architecture	Professor
	S. Ichimura	F. of Science and Technology	Liberal Arts	Professor
	S. Yanagita	F. of Science and Technology	Liberal Arts	Lecturer
	M. Morita	F. of Science Division I	Dept. of Applied Math.	Professor (Part time)
	T. Akitsu	F. of Science Division II	Dept. of Chemistry	Professor
	T. Kurabuchi	F. of Engineering Division	Dept. of Architecture	Professor
	A. Shono	F. of Engineering Division	Dept. of Applied Chemistry	Professor
	M. Kohno	F. of Engineering Division II	Dept. of Architecture	Professor
	M. Tsujimoto	F. of Engineering Division II	Dept. of Architecture	Professor (Part time)
PD	Koo In Hyuk	R. Inst. of Sci. and Tech.	R. Center for Fire Safety Sci.	PD
Technician	Y. Akimoto	R. Inst. of Sci. and Tech.	R. Center for Fire Safety Sci.	Technician
	S. Kang	R. Inst. of Sci. and Tech.	Center for Fire Sci. & Tech.	Technician
Visiting Professor		9		
Visiting Associate Professor		5		
Visiting Researcher		1		

■ Setting up purpose & Research theme (Present State and Visions)

■ Setting up purpose　Becoming a global foothold on fire safety science

■ Research Theme

Red：Reporting this time、Blue ：already reported

■ Fire Engineering of Urban and Architecture

□ Field of Human Science & Social Science
- Evacuation of high-rise buildings
- Fire safety engineering based on exercise physiology
- Explosive fire accident on industry base

□ Field of Material Science
- Evaluation of flame spread using façade test
- Test Method for Toxicity Evaluation of Materials using FT-IR Gas Analyzer
- **Fire resistance of post installed chemical anchor**
- Analysis of Concrete Behavior at High Temp. using Neutron
- Combustions of bedclothes(futon・Bed Mattress)
- New extinguish material

□ Field of Advanced Measuring Technique
- Application of terahertz wave to Fire Engineering Field
- Technology for disaster by ICT

□ Field of Research & Statistics and Risk Analysis
- Comparison of Fire Protection Standards in East Asia

■ Seeking Potential Fire Risks (New field & Seeds)

□ New Energy and Industrial Technology
- Fire Safety of energy-related Facilities and Devices such as solar power generation

□ Transportation & Nuclear Power Generation
- Fire Risks of Trains & Airplanes of high-speed transportation
- Fire Protection for Specified Facilities such as Nuclear Site

■ Our Visions of the Future

Outcomes of researches of this Center are often conducive to regulations in several industrial fields.
By the Joint Usage / Research Center, we make researches in cooperation with government, industry and academia.
Government：progress toward regulations , Industry：promoting new techniques. → Reflecting in JIS, ISO etc.

Number of adoption and implementation of joint/collaborative research tasks

Classification		2014	2015	2016	2017
Adoption Status	entries(A)	6	7	7	6
	adopted(B)	6	6	7	6
	Acceptance rate (B/A)	100%	86%	100%	100%
Number of implementation	Open type	6	6	6	6
	Other type	0	0	0	0

FORUM
for Advanced Fire Education
/Research in Asia 2018
Korea（From November 22nd）

Expanding research themes in new fields to promote of cooperation among government, industry and academia
⇒ Construction of Novel Region・・・・ex. Evaluation of Risks on Energy Utilization Technique

■ Highlight of Research outcomes

: Fire resistance of Post-installed chemical anchor

■ Field of Material Science :

Extension of the antiseismic reinforcement technology by the elucidation of fire-resistant performance

■ Background

Big earthquake is expected at high occurrence probability, and efficient measures are needed urgently.

■ Purpose

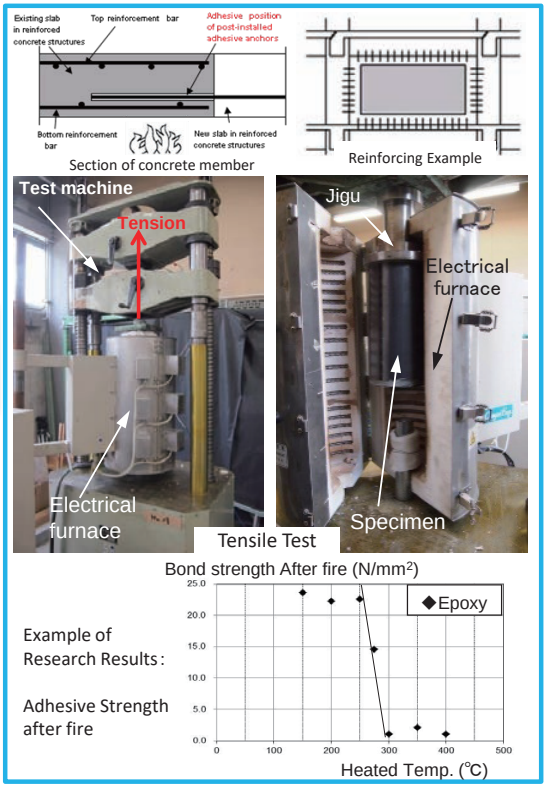
Promotion and extension of the antiseismic reinforcing method by research about fire-resistant performance.

■ Research results

Making clear the strength of anchoring during and after fire, we can use it safely. It lead to governmental project.

■ Presented paper

1) Seira Owa, Kenichi Ikeda : EXPERIMENTAL STUDY ON BOND STRENGTH OF ADHESIVE POST-INSTALLED REBARS OF EPOXY INJECTION RESIN TYPE DURING FIRE AND AFTER FIRE, J.struct. Constr. Eng., AIJ. Vol.80 No.717 1803-1809. Nov.,2015
2) Seira Owa, Kenichi IKEDA : EXPERIMENTAL STUDY ON BOND STRENGTH OF ADHESIVE POST-INSTALLED REBARS OF EPOXY INJECTION RESIN TYPE DURING FIRE AND AFTER FIRE ,SUMARY OF PAPERS OF ANNUAL MEETING ARCHITECTURAL INSTITUTE OF JAPAN 87-88 2015
3) Seira Owa, Kenichi IKEDA : REMAINING BOND STRENGTH OF ADHESIVE POST-INSTALLED REBARS OF INJECTION RESIN TYPE AFTER FIRE、, J.struct. Constr. Eng., AIJ. Vol.81 No.728 1753-1760 2016



■ Highlight of Research outcomes

: Combustions of bedclothes(Bed Mattress)

■ Field of Material Science :

Fire safety by inflammable prediction of a bed mattress

■ Background

Bedding is combustibles which account for the highest rate in the fire accompanied by the dead in Japan.

■ Purpose

Prediction of the combustion spreading of bed mattress

■ Research results

the burning characteristics and combustion spread of a bed mattress become clear, the prediction methods were developed.

■ Presented paper

1) Kazutaka Kimura,Kye-Won Park,Yoshifumi Ohmiya,Masayuki Mizuno : Combustion Experiment of Bed Mattress based on ISO12949 Part1 Study background and Experiment technique, Summary of papers of annual meeting Architectural Institute of Japan A-2, pp. 1-2, **2013**.
2) Jong-jin Jeong, Kazutaka Kimura, Masayuki Mizuno, Ken-ichi Ikeda, Shin-ichi Sugahara, Yoshifumi Ohmiya, Park Kye-Won, Yoshihiko Hayashi : Combustion Experiment of Bed Mattress based on ISO 12949 ~Part.4 Pocket coil mattress(made in JP) ~, Summary of papers of annual meeting Architectural Institute of Japan A-2, pp. 177-178, **2014**.
3) Kye-Won Park, Kazutaka Kimura, Masayuki Mizuno, Ken-ichi Ikeda, Yoshifumi Ohmiya, Shin-ichi Sugahara, Yoshihiko Hayashi: Flame Spread Mechanism through Analysis of Fire Behavior of Bed Mattress by the ISO 12949 Test, Journal of Asian Architecture and Building Engineering, Voi. 14, No. 3, pp. 725-732, **2015**.
4) Jong-jin Jeong, Kye-won Park, Masayuki Mizuno, Yoshifumi Ohmiya, Yi-Chul Shin, Michael A. Delichatios: Analysis of Heat Release Rate of Bed Mattress Installed at Different Heights, Proceedings of the fourteenth international fire science and engineering conference (INTERFLAM 2016), Vol. 1, pp. 261-280, **2016**.
5)～12) abbreviation