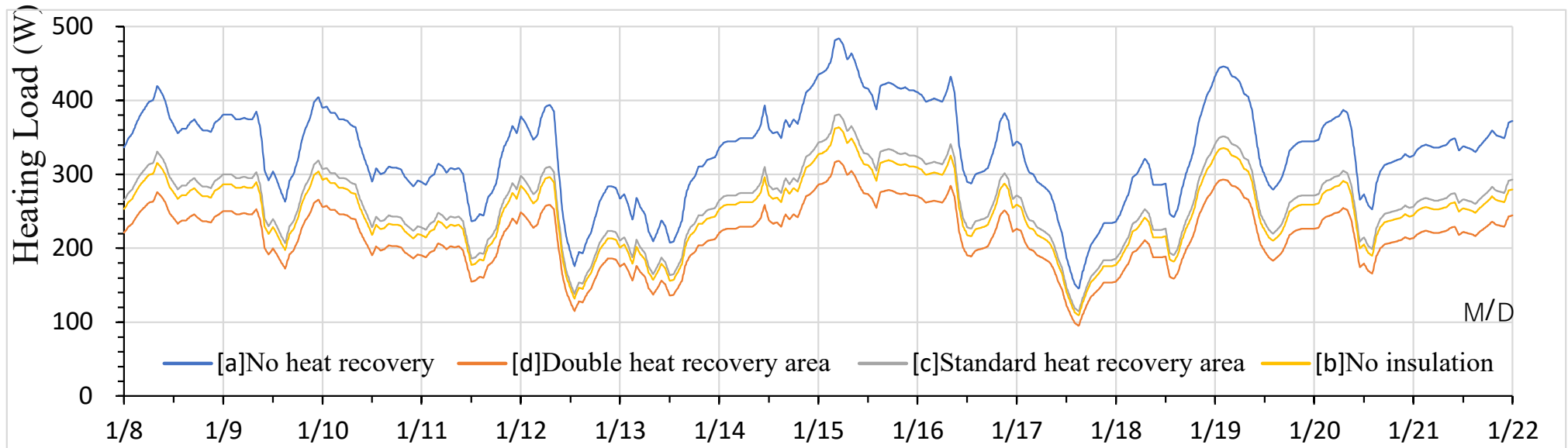


Energy saving effect of ventilation heat recovery

Comparison of heating load by intake outdoor air (Weather data are for two weeks in January of Fukuoka)



Definition of heat recovery ratio
(Ultimate outlet temperature is θ_{∞})

$$\eta = \frac{(\theta_{e_2} - \theta_{e_1}) \cdot m_e}{(\theta_{\infty} - \theta_{e_1}) \cdot m_e} = \frac{\theta_{e_2} - \theta_{e_1}}{\theta_{\infty} - \theta_{e_1}}$$

- A heat recovery ratio of 0.4 was obtained. This is for a duct length of 1.8m, If it was 3.6m, it would be about 0.65.

- In this building, most of the load is due to heat flow through the outer skin, so heat recovery from ventilation has little effect in reducing the overall heat load.

- It is expected that the draft feeling when outside air is introduced will be halved.

Comparison of heat recovery ratio

