Haut – A 21-storey Tall Timber Residential Building

https://research.thinkwood.com/en/permalink/catalogue2743

Author:	Verhaegh, Rob
	Vola, Mathew
	de Jong, Jorn
Publisher:	KoreaScience
Year of Publication:	2020
Country of Publication:	Korea
Format:	Journal Article
Material:	Timber-Concrete Composite
	CLT (Cross-Laminated Timber)
	Glulam (Glue-Laminated Timber)
Application:	Floors
	Hybrid Building Systems
Topic:	Design and Systems
Keywords:	Tall Timber Buildings
	Residential
	Netherlands
	TCC
	Vibration
	Holistic Design
	Multi-Family
	Wind
	Stability
	High-Rise
	Haut
Language:	English
Research Status:	Complete
Series:	International Journal of High-Rise Buildings

Summary:

This paper reflects on the structural design of Haut; a 21-storey high-end residential development in Amsterdam, the Netherlands. Construction started in 2019 and is in progress at the time of writing. Upon completion in 2021, Haut will be the first residential building in the Netherlands to achieve a 'BREEAM-outstanding' classification. The building will reach a height of 73 m, making it the highest timber structure in the Netherlands. It contains some 14.500 of predominantly residential functions. It features a hybrid concrete-timber stability system and concrete-timber floor panels. This paper describes the concepts behind the structural design for Haut and will touch upon the main challenges that have arisen from the specific combination of characteristics of the project. The paper describes the design of the stability system and -floor system, the analysis of differential movements between concrete and timber structures and wind vibrations. The paper aims to show how the design team has met these specific challenges by implementing a holistic design approach and integrating market knowledge at an early stage of the design.

Online Access: Free

Resource Link

https://doi.org/10.21022/IJHRB.2020.9.3.213