BM13.2-ĐT-BVCS

MINISTRY OF EDUCATION AND TRAINING **THE SOCIALIST REPUBLIC OF VIETNAM**

**HO CHI MINH CITY UNIVERSITY OF TECHNOLOGY AND EDUCATION Independence – Freedom - Happiness**

**SUMMARY OF CONTRIBUTIONS OF THE DISSERTATION**

PhD candidate : BUI XUAN BACH Fellows code: 1901001

Major : Engineering Mechanics Major code: 9520101

Dissertation title : DEVELOPMENT OF THE THIN-WALLED COMPOSITE BEAM MODEL UNDER MECHANICAL AND THERMAL LOADS

Supervisor one : PROF. DR. NGUYEN TRUNG KIEN

Supervisor two : DR. DO TIEN THO

**Summary of theoretical and academic contribution of the dissertation**:

This thesis proposes a thin-walled composite beam model under mechanical and thermal loads. The static, vibration, and buckling responses of the thin-walled composite beams are computed and analysed in multiple cases. This thesis also addresses the following aspects: a wide range of thin-walled beams’ cross section, high-order shear effects, the size-dependent effect of microbeams, and the randomness of the model input parameters. The simulation results along with the software program of this thesis can contribute to the engineering mechanics research community and can be applied commercial structural softwares.

*HCMC, 19/04/2025*

**Supervisor PhD candidate**

*(Sign and name) (Sign and name)*

*Prof. Dr Nguyen Trung Kien Bui Xuan Bach*

*Dr. Do Tien Tho*