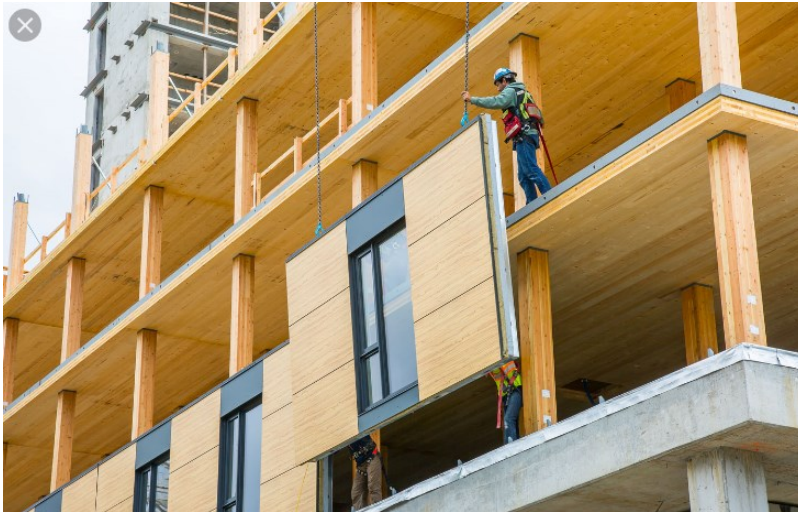


Up to 12 Storey Tall Wood Building - Early Adoption Initiative



What are the **current** BCBC & NBC requirements?

- ▶ 6 Storey max height allowance for wood frame

Taller than 6 storey construction requirements:

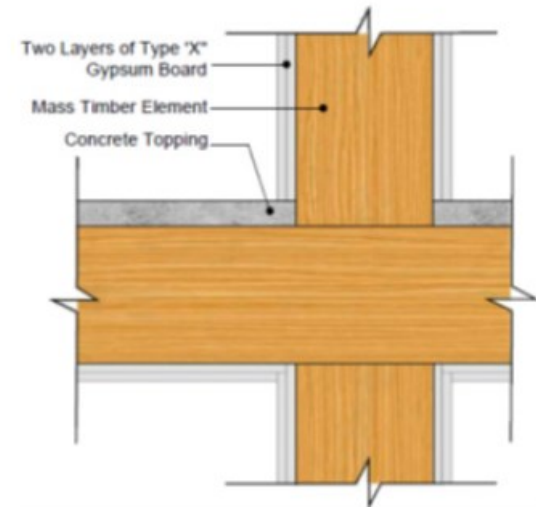
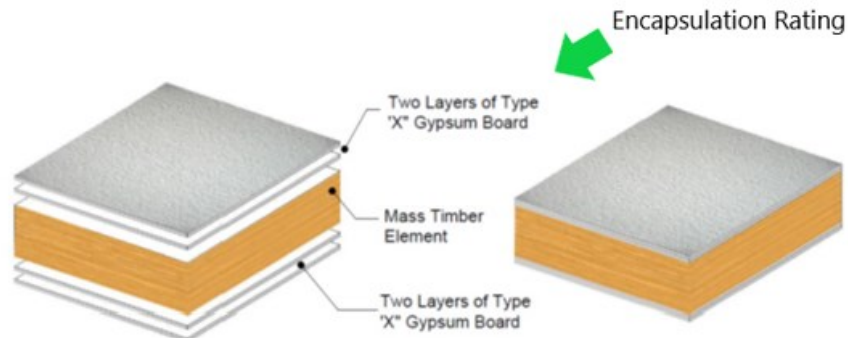
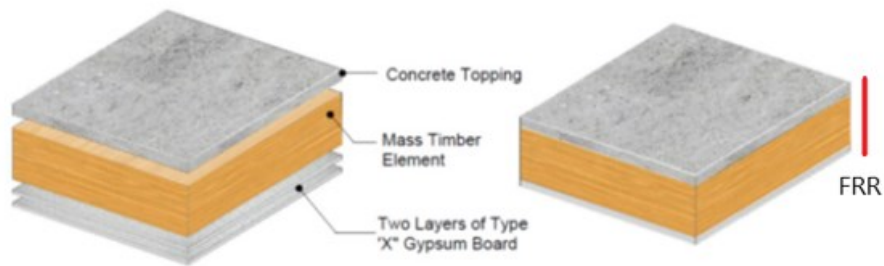
- ▶ “Noncombustible construction”
- ▶ Fire-resistance rating of structural members minimum of 2 hours
- ▶ Automatic fire sprinklers
- ▶ Unlimited height, unlimited area

What are the **proposed** BCBC & NBC requirements?

Encapsulated Mass Timber Construction (EMTC) requirements:

- ▶ 2 hours Fire-Resistance Rating of structural members
- ▶ Automatic fire sprinklers
- ▶ Limited Height of max 12 storey & 42m to top floor
- ▶ Limited Bldg area of 6,000 m² for Group C
- ▶ Encapsulation rating of 55 min

How is the encapsulation rating achieved?



Source: Morrison Hershfield (2018)

What is the structure of EMTC?

► NEW CLASS or ADDITIONAL OPTION

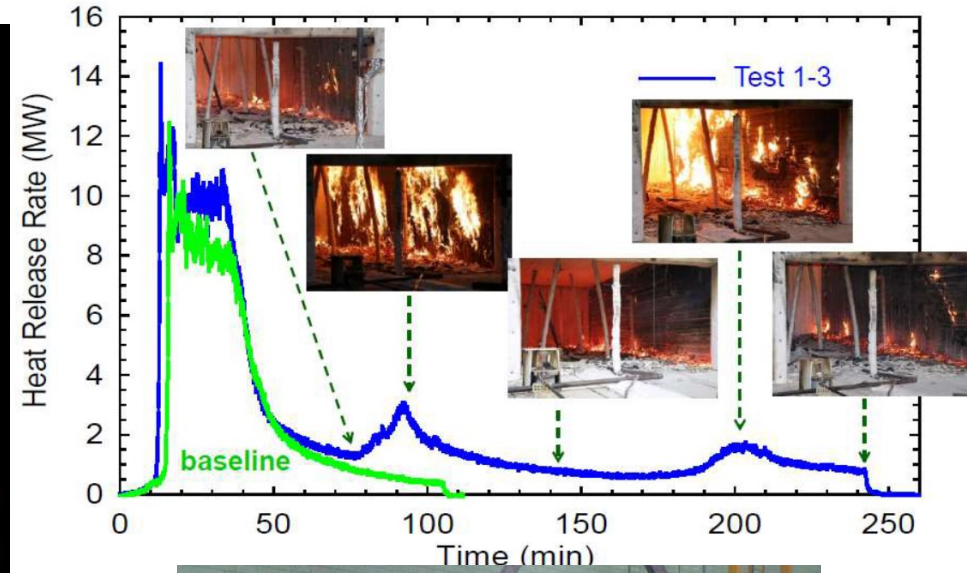
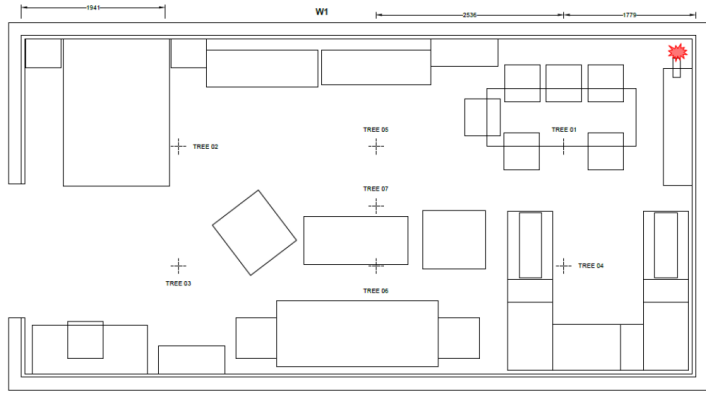


Source: Structurlam Mass Timber Corporation (2019)



Source: ASCE (2013)

EMTC & Glued Laminated Beam & Post Fire Tests by NRC



City of Kelowna

What are the Municipal Eligibility requirements?



- ▶ City Council's support for the initiative;
- ▶ Building and fire departments support the participation;
- ▶ At least one building official holds a Level 3 competency certification from the Building Officials' Association of BC; and
- ▶ The jurisdiction's land-use bylaws support buildings greater than six storeys in height

What are the benefits for the City?

- ▶ Brand new additional construction method to choose from
- ▶ Approx. 1/5 the weight of comparable concrete building
- ▶ Positive economic implications
- ▶ Helping to grow local and global markets
- ▶ Ease of assembly for the development industry
- ▶ Learning opportunity for city staff prior to BCBC change
- ▶ Climate-friendly construction