

Modern Modular Housing

NVD-V65



NVD-V65 is a construction method where buildings are built in sections (modules) in a factory setting, then transported to the site and assembled. This approach offers faster construction times, better quality control, and reduced environmental impact compared to traditional building methods.

Model	NVD-V65
Overall Dimensions (L x W x H)	12,500 x 4,000 x 3,350 mm + 4,000 x 4,000 x 3,350 mm
Floor Area	65 m2 (700 sq ft)
Occupancy	4-6 persons
Continuous Power Rating	20 kW (maximum continuous load; sizing subject to site-specific electrical design)
Shipping Weight (Net)	~16 metric tonnes (~35,300 lbs) -- total, two modules combined
Structural Design Life	50 years (per applicable NBC 2020 load combinations; backed by professional engineering seal -- see Reference section)
Electrical Service	Single-Phase 240 V / 60 Hz -- residential service, 100 A or 200 A (site-dependent); compliant with CSA
Plumbing	3/4" NPT cold water supply; 4" DWV drain; max. 20 kW electric heating load

Standard Configuration

Main Structure and Envelope

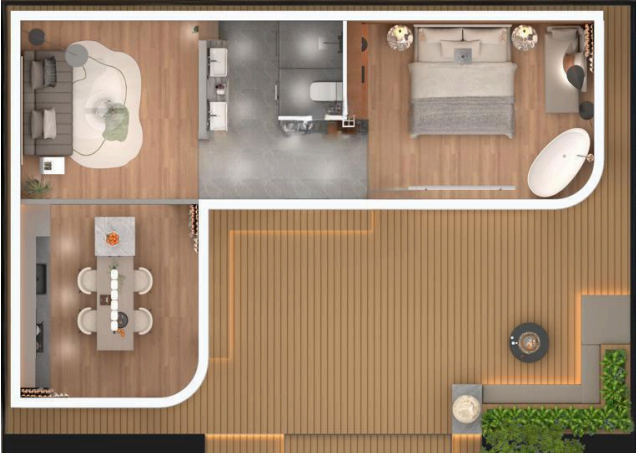
- High-strength hot-dip galvanized steel cage structure
- 50 mm polyurethane foam insulation with proprietary thermal break system
- 3-coat fluoropolymer (AAMA 2605) aluminum composite exterior wall panels, 2.5 mm thick - 20-year colour retention warranty
- Thermal-break aluminum window frames; triple-glazed (6+9A+6+9A+6) tempered safety glass
- Top-hung awning windows with enhanced weatherstripping (ventilation + rain protection)
- Steel-reinforced insulated exterior entry door - multipoint lock system

Interior Finishing System

- Aluminum linear suspended ceiling panels
- Dual-layer recessed ambient LED lighting system (ceiling)
- Bamboo fiber decorative wall panel system -- low-VOC, eco-certified
- Factory-installed prefabricated electrical and plumbing rough-in; modular quick-connect fittings
- Manual blackout roller shades (all windows)

Equipment and Fixtures

- Custom entrance foyer cabinet / storage unit
- Smart-touch wall-mounted bathroom mirror with integrated LED lighting and demister pad
- Exterior LED ambient light strip (single-colour; recessed at wall soffit)
- Multi-function bathroom heater / exhaust fan (timer-controlled)
- Premium bath fixtures: basin, shower enclosure, toilet (branded; see finish schedule)



Structural and Performance Ratings	
Item	Specification
Floor Live Load	1.9 kPa (40 psf), per NBC 2020 Division B Table 4.1.5.3
Roof Live Load	1.0 kPa (21 psf), per NBC 2020 Division B Table 4.1.5.3
Balcony / Deck Load	4.8 kPa (100 psf), per NBC 2020 Division B Table 4.1.5.3
Structural System	Steel reinforced cage frame; hot-dip galvanized; designed by licensed professional engineer (P.Eng) per CSA S16
Snow Load Rating	Site-specific; refer to structural engineering for project location. Standard design base: 2.0 kPa (42 psf), upgradeable. (See Reference section)
Wind Load Rating	Site-specific; refer to structural engineering for project location. Standard design base: 0.55 kPa (11.5 psf). (See Reference section)
Seismic Design	Site-specific; Seismic Design Category (SDC) per NBC 2020 Appendix C. Engineer of Record to confirm for project location
Foundation Type	Concrete slab (engineered concrete, min. 150 mm thickness) or pile foundation; engineered to bear capacity and frost depth requirements of installation site
Frost Depth	Foundation must extend below local frost penetration depth per NBC 2020 Division B Section 9.12.2.2 and provincial amendments. Typical Canadian frost depths: 600 mm to 1,800 mm depending on region. Geotechnical investigation strongly recommended prior to foundation design



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Thermal Performance

Assembly	Insulation	R-Value (RSI)	U-Factor (W/m2-K)
Exterior Wall (standard)	50 mm polyurethane + thermal break	>= R-20 (RSI 3.5)	<= 0.28
Exterior Wall (upgrade)	100 mm polyurethane + thermal break	>= R-40 (RSI 7.0)	<= 0.14
Roof / Ceiling	50 mm polyurethane + thermal break	>= R-20 (RSI 3.5)	<= 0.28
Glazing (triple glazed)	6+9A+6+9A+6 hollow tempered glass	>= R-11 (RSI 1.9)	<= 0.50
Thermal Break Window Frame	Aluminum with thermal break	Included in wall assembly	--
Air Tightness (target)	Blower door test (ASTM E779 / CAN/ULC S742)	<= 2.0 L/s-m2 at 75 Pa	--

Component	Specification
Exterior Guardrails	Tempered safety glass, minimum 12 mm full-height, with stainless steel stanchions; height per applicable NBC 2020 provincial amendments (minimum 1,070 mm / 42" in most provinces)
Exterior Wall Panels	3-coat fluoropolymer (FEVE) aluminum composite panel, AAMA 2605 compliant, 2.5 mm nominal thickness. Custom colours available; 20-year no-fade warranty. Low-E coating optional
Glass Curtain Wall and Windows	Thermal-break aluminum framing. Triple-glazed: 6 mm tempered + 9 mm argon gap + 6 mm tempered + 9 mm argon gap + 6 mm tempered. Overall U-factor: <= 0.50 W/m2-K. Warm-edge spacer. All glass: tempered safety glass per NBC requirements
Opening Windows	Top-hung awning windows; multipoint hardware; EPDM rubber weatherstripping; trickle vent option; mosquito screen included
Interior Wall Finish	Bamboo fiber decorative panel; CARB Phase 2 compliant (low formaldehyde); Class A fire rating (ASTM E84 / CAN/ULC S102)
Interior Flooring	Engineered multi-layer hardwood flooring; 12 mm nominal thickness; click-lock joint system; pre-finished; hardwood species per selection (oak standard; other species available)
Exterior Decking	Composite wood decking (HDPE + wood fiber); weather-resistant; slip-resistant surface; hidden fastener system; 25-year limited warranty
Structural Steel	Hot-dip galvanized steel; G90 coating weight (min.); fabricated per CSA S16; mill test reports and certificate of conformity provided

Conditions and Disclaimers
 Specifications: All technical specifications contained in this document are based on standard factory configurations as of the date of publication. Specifications are subject to change without notice to reflect ongoing product improvements. Site-specific engineering may require modifications to certain specifications. Final specifications are confirmed at time of order confirmation and documented in the binding Purchase Agreement.
 Regulatory Compliance: This product is designed to meet the requirements of the National Building Code of Canada and applicable provincial building codes. Compliance with local zoning, permitting, land use, and environmental regulations is the sole responsibility of the purchaser and/or installing contractor. Novodot assumes no liability for installations that do not comply with applicable local codes, regulations, and permit requirements.
 All specifications are subject to change without notice.

Technical and Compliance Reference
IMPORTANT – For Reference Only (Not Certified Values) The information in this section represents target design values and standards that the NVD-V65 is designed to meet. These values are pending formal certification by a licensed Professional Engineer (P.Eng) and applicable Canadian testing agencies. All certification values will be confirmed and stamped at the time of project-specific engineering. Do not use this section as a substitute for certified engineering documentation for permit applications.

Standard / Requirement	Details
Building Code	National Building Code of Canada (NBC) 2020, and applicable provincial building code (OBC / BCBC / QBC / ABC / etc.)
Structural Steel Design	CSA S16:19 -- Design of Steel Structures; stamped by licensed P.Eng in province of installation
Prefabricated Buildings	CSA A660:21 -- Certification of Manufacturers of Prefabricated Houses; CCMC technical guide evaluation (in progress -- registration to be completed with NRCAN)
Electrical Safety	CSA C22.1 -- Part I; all electrical components CSA-certified or QAI-certified for Canada
Energy Performance	National Energy Code of Canada for Buildings (NECB) 2020; EnerGuide rating available through Natural Resources Canada (NRCAN) registered energy advisor (target rating: EnerGuide 80+)
Plumbing	CSA B651 -- Accessible Design for the Built Environment (bathroom fixtures); products to be certified by QAI or CSA International
Gas / Propane Appliances	CSA or CGA certification required for any gas-fired appliances; not included in standard configuration
Fire Safety	NBC 2020 Division B Section 9.32 (Smoke and Carbon Monoxide Alarms -- hardwired, interconnected, battery backup); NFPA 13D residential sprinkler compatibility designed (installer to confirm with local AHJ)
Air Tightness Testing	ASTM E779 / CAN/ULC S742 -- Standard Test Method for Air Leakage Site Detection; blower door test by NRCAN-registered energy advisor
Crane and Lifting Safety	ASME B30.20 -- Below-the-Hook Lifting Devices; CSA Z150.4 -- Safety Requirements for Mobile Cranes (scaffold, rigging, signal person qualifications)
Professional Engineering	All structural, foundation, and building envelope engineering to be performed and sealed by a licensed Professional Engineer (P.Eng) registered in the province of installation. Structural engineer of record: [To be confirmed per project -- contact Novodot]
Provincial Permits and Inspections	Building permit, electrical permit, plumbing permit (as applicable), and occupancy permit required from local authority having jurisdiction (AHJ). Novodot can provide technical documentation package to support permit applications. Permit fees and application preparation are the responsibility of the purchaser/installing contractor



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