



NUDURA[®]
INTEGRATED BUILDING TECHNOLOGY

Building Value.





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NUDURA[®] - An Integrated Philosophy

The concept for NUDURA[®] was sparked by an interest in consolidating the best features of existing Insulated Concrete Form (ICF) products with the most advanced manufacturing technology available. From its inception, it was based on a Philosophy of Integration.

Integrating Manufacturing and Sales...

NUDURA[®] Corporation is the partnership of one of North America's leading Expanded Polystyrene (EPS) manufacturers and several of the industry's leading sales and marketing entrepreneurs. We are committed to providing innovative products and a high level of service through a network of local distributors.

Integrating ICFs and Innovation...

NUDURA[®] has developed flooring and ceiling technology which combines with the insulating concrete forms to complete the shell which envelops the building's interior, maximizing its comfort, durability, cost and energy efficiency. Our innovation has resulted in a versatile product offering which simplifies the challenges of today's construction and architectural demands.

THE BETTER WAY TO BUILD

Integrating Products and a Full Solution...

Building materials are not independent of the methods and tools that enable a successful installation. NUDURA® has used its experience to source and often design products which compliment and facilitate a professional and cost-efficient ICF job. Our products undergo rigorous testing to ensure their suitability to the recommended application and we dedicate significant resources to training authorized distributors and installers.

Integrating the Solution with Service...

Of the few certainties with life, one is that today's building projects will present new opportunities to overcome. A thorough screening and selection process aligns NUDURA® with the best companies in local geographic areas to represent NUDURA® products. Combined with full marketing and technical support from NUDURA®, our distributors complete the integration of manufacturing, sales, products and service.



YOUR NEEDS

The building materials you choose for your next project will impact the value of your investment for its lifetime. Whether it is your home, office, or a public institution, you want a structure that is safe and comfortable, yet built at a competitive price with minimal long-term maintenance and service costs.



FIRE RESISTANCE
DURABILITY
ENERGY EFFICIENCY
COST EFFICIENCY
SOUND RESISTANCE
COMFORT



OUR SOLUTION

The insulating capacity of expanded polystyrene combined with the structural strength and thermal mass of concrete makes NUDURA® walls stronger, safer, more comfortable and more energy-efficient than typical residential walls. In various tests, NUDURA® walls have met and, most often exceeded, statutory building codes.

Up to **2x greater*** ENERGY EFFICIENCY

NUDURA® is a highly insulated concrete wall, with no air spaces or studs, that vastly reduces air infiltration. When combined with an air exchange system, NUDURA® technology helps even out the effect of external temperature swings and provides superior energy-efficiency as compared to typical wood-framed homes.

Up to **4x greater*** FIRE RESISTANCE

NUDURA® walls are built with steel reinforced concrete and fire retardant-treated expanded polystyrene foam. Compared to wood-framed walls, NUDURA® walls are far more likely to remain standing in case of a fire, and are far more resistant to the spread of fire.

Up to **9x greater*** COMFORT

Outside cold can easily travel through a typical wood-framed wall (thermal bridging) to create uncomfortable cold spots inside your home. NUDURA® walls offer superior performance when it comes to thermal bridging and air infiltration. The end result is even temperatures throughout your home with reduced drafts and no cold spots, dampness or mustiness.

Up to **9x greater*** DURABILITY

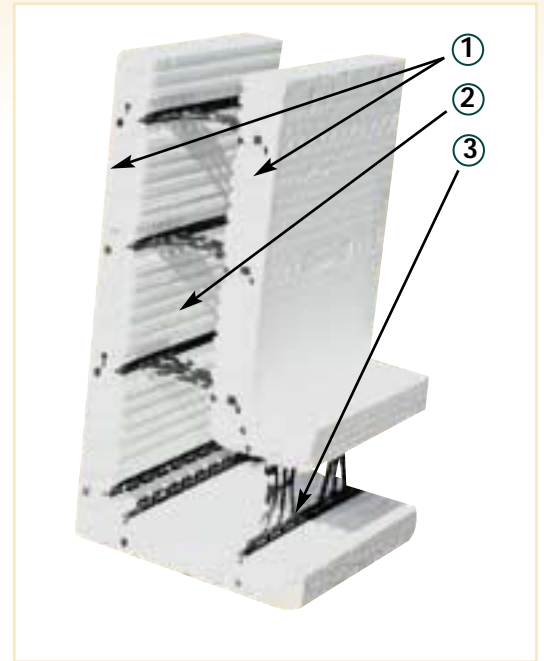
Due to NUDURA®'s design, NUDURA®'s walls have up to 9 times more axial load resistance than a typical wood-framed wall. NUDURA® technology offers enhanced protection for your home, especially in high-wind areas, and during tornadoes and hurricanes.

Up to **3x greater*** SOUND RESISTANCE

NUDURA®'s double foam insulated concrete core acts as an effective sound barrier, dampening sound vibrations and ensuring a serene and comfortable ambience within the home.

Greater** COST EFFICIENCY

Because of NUDURA®'s innovative design, it is faster and easier to build with and has much fewer post construction problems to deal with. The patented folding web design also makes NUDURA® products more cost effective to ship.



- ① Double Insulation Protection.
- ② Concrete Core.
- ③ NUDURA®'s Patented Hinged Webs



* Compared to a typical wood framed house.
**Compared to other ICFs

THE ARCHITECT'S CHALLENGE

An architect faces the challenge of encapsulating the dreams and desires of the owner within the final design. Finding quality building materials that will fulfill these design requirements, within the budget, is often difficult. Curved shapes, unusual angles and tall walls all present unique tests of a product's versatility.



FLEXIBILITY OF DESIGN

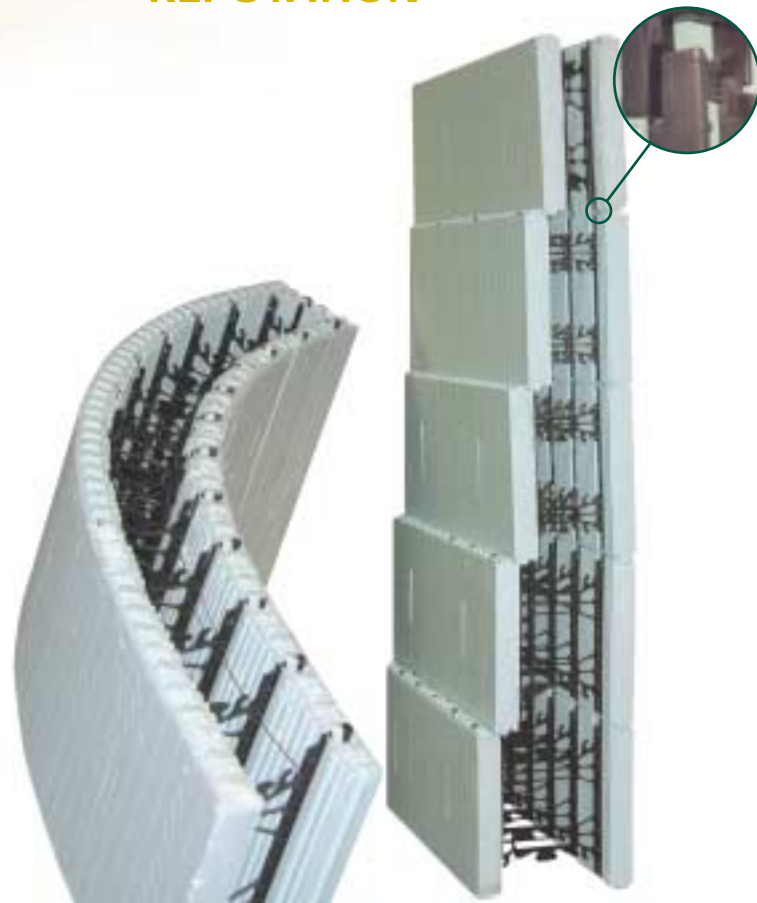
LONGEVITY

STRENGTH

COST EFFICIENCY

QUALITY

REPUTATION



THE BUILDER'S CHOICE

FASTENING STRIPS LOCK TOGETHER COURSE TO COURSE

Reduces labour by virtually eliminating the need to secure forms with tape or wire and provides continuous fastening for finish materials. Also practically eliminates float and compression so you can build to accurate dimensions.

LARGE SIZE (Standard form is 12 sq.ft.)

Less seams result in a sturdier, more dependable wall form. Our 8' x 18" forms reduce labour by increasing productivity.

STURDY AND REVERSIBLE INTERLOCK (all four directions)

Reduces labour and minimizes waste. No left and right corners. Gables can be constructed quickly with no waste.

CUSTOM FACTORY CUT RADIUS WALLS (available upon request)

Eliminates messy, imprecise and time consuming field cuts. Provides stonger, cleaner and more accurate radius walls.

DUAL SUPPORT WEB DESIGN

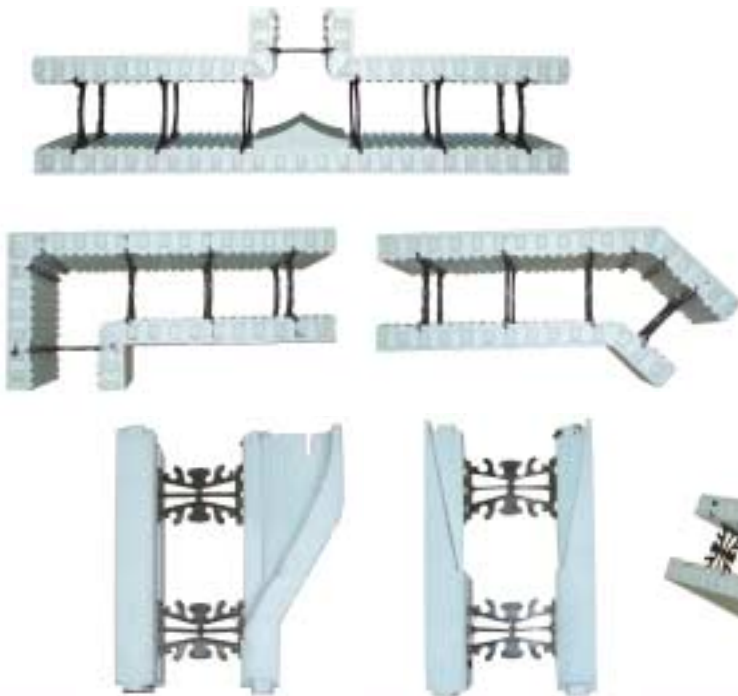
Increases strength and performance and allows for forms to be quickly cut into two usable 9" units. Reduces labour and waste to build many conventional wall heights.

INNOVATIVE HINGED, FOLDING WEB

Reduces shipping costs. Easy handling and storage. Protective packaging.

EXPERIENCE & INTEGRATION

With over 32 years of manufacturing experience, and a vertically integrated production, marketing and sales approach, NUDURA® represents the present and future of ICFs.



WHAT TO EXPECT FROM YOUR ICF SUPPLIER



You need suppliers that you can rely on for product quality, reliability, support and knowledge. You should have a local distributor that can be responsive to your needs and questions, provide product training, and offer innovative products that help you to cut costs and be very competitive with conventional framing methods. We know that a relationship goes well beyond simply supplying a product.



- QUALITY
- SUPPORT
- KNOWLEDGE
- PRICE COMPETITIVENESS
- PRODUCT INNOVATIONS
- TRAINING
- RELATIONSHIPS



NUDURA®'S COMMITMENT

NUDURA® is committed to leading the industry in product innovation, which addresses the needs of the end-user and the challenges of the designer, and in price, which will position ICFs as a viable and preferred alternative to conventional framing methods.

We believe in building relationships at the local level by aligning ourselves with reputable and knowledgeable distributors who are focused on service and support.

The use of Nudura® singles you out as an adopter of innovative technology and a builder of integrity and value. Many clients are now looking at value-added alternatives to conventional construction. Builders and their customers who have used Nudura® speak in glowing terms of its quality, innovation and ease-of-use.

Training is a crucial component of any advanced technology. In this respect, Nudura® is committed to providing product training to its builder-clients who want to adopt this innovative technology. Our extensive training will provide you with the knowledge you need to get the job done with efficiency and confidence.



INTEGRATED BUILDING TECHNOLOGY

NUDURA® Integrated Building Technology is the application of science in both manufacturing and construction to develop a more comfortable, durable and efficient structure by combining the precise materials and techniques that will contribute to a highly effective building envelope.



NUDURA® offers more than simply a product to construct walls. We offer an innovative solution to those seeking more efficient buildings. Through the application of principles established by the various physical sciences, NUDURA® is improving both the process by which building materials are manufactured and the methods of applying these materials to construction. It is no longer environmentally or economically feasible to construct buildings that only last 20 to 30 years, have huge heat and energy loss factors, allow unwanted air movement and/or breed moisture problems. As a society, we deserve more. Combining the industry leading insulated concrete form with exclusive floor and ceiling technologies, NUDURA® is contributing to improving the effectiveness of our homes, schools, and office buildings.

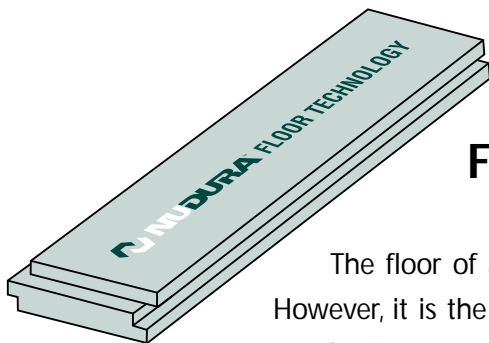
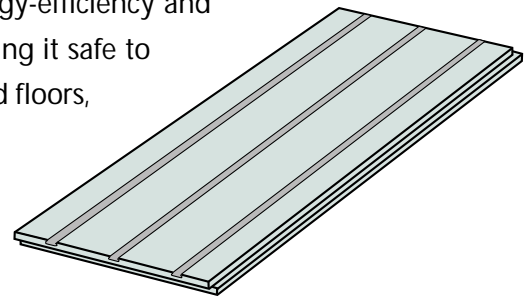
CEILING AND FLOOR TECHNOLOGY



CEILING TECHNOLOGY

No matter how professional the installation of a typical residential ceiling and insulation, it is inevitable that gaps in the vapor barrier will lead to moisture problems and possible truss uplift. NUDURA® has virtually eliminated these and similar

problems with its Ceiling Technology. These sheets of 100% recyclable, expanded polystyrene are molded with embedded wood strapping and an overlap on the perimeter for easy and efficient installation. The overlap reduces air filtration to such a degree that no other vapor barrier is required. Used in a double layer, it significantly reduces thermal bridging increasing the energy-efficiency and comfort ability of the building. The foam contains no CFC's or HCFC's making it safe to use and an ideal, economical insulation solution for retro-fitting uninsulated floors, walls and ceilings in homes, garages, cottages or commercial buildings.



FLOOR TECHNOLOGY

The floor of a building is often the most ignored surface when it comes to insulation. However, it is the backbone of the comfort ability a structure can provide to its inhabitants. NUDURA® offers a cost-effective, 100% recyclable insulation which is used under the basement slab to provide a layer of protection against transference from the ground and a base for the internal heating/cooling system of the building. NUDURA®'s Floor Technology is a molded expanded polystyrene foam sheet that is safe (contains no harmful CFC's or HCFC's) and easy to use (designed with a ship lap and a tongue and groove interlock). It also provides an energy-efficient base for radiant heating.



PRODUCTS

STANDARD FORM UNIT



The Standard is our most-used form unit. It measures 8 ft long and provides an incredible 12 sq. ft. of wall area. NUDURA® Standards easily unfold for use, are fully reversible and are available with 4"/6"/8"/10"/12" cores.

RADIUS FORM UNITS



Make the homeowner and architect dreams come true! NUDURA® makes curves and radius walls easy by providing factory-cut forms designed to your specifications. NUDURA®'s radius form units eliminate wasteful and time-consuming in-field work.

90 DEGREE CORNER



To reduce shipping costs, we offer a unique 90 degree corner form that folds. Our corner forms are reversible so there is no need to keep track of left and right corners. Also, our corner forms have convenient, continuous fastening strips at the corners. Available with 4"/6"/8"/10"/12" cores.

BRICK LEDGE FORM UNIT



When building with NUDURA® to the roof, our Brick Ledge Form Units are used to support a brick veneer. Available with 4"/6"/8"/10"/12" cores.

45 DEGREE CORNER



Our 45 Degree Corners also fold to provide shipping efficiencies and are fully reversible. Available with 4"/6"/8"/10"/12" cores.

BRICK LEDGE EXTENSION



NUDURA® offers the brick ledge extension to provide greater flexibility when establishing brick ledge locations.

TAPERED TOP (ONE SIDE)



We offer Tapered Top forms to allow for conventional above-grade framing with a brick veneer, while offering maximum insulation performance at grade level. Available with 4"/6"/8"/10"/12" cores.

END CAPS



NUDURA® End Caps slide quickly into place to serve as insulated bucks or bulkheads. End Caps are manufactured with a convenient center fastening strip. Available for 4"/6"/8"/10"/12" cores.

PRODUCTS

HEIGHT ADJUSTERS



NUDURA® Height Adjusters are used to provide an extra 3" in wall height. NUDURA® Height Adjusters are reversible and can be cut in half and used to achieve 1 1/2" increments. Height Adjusters come with fastening strips to provide important additional form support as well as providing a continuous fastening strip.

EASY BUCK



Our "Easy Buck" channels are used with dimensional lumber to build window and door openings. Easy Buck channels are fast and easy to install. They reduce thermal bridging and the lumber provides a sturdy fastening surface for windows and doors.

EXTERNAL CONCRETE VIBRATOR



We all know that proper consolidation requires walls to be vibrated.* However, it doesn't always get done. Internal concrete vibrators are time-consuming and expensive. NUDURA® provides an air-driven external wall vibrator that is quick, easy and inexpensive to use. Ensure that all your walls get vibrated!

NUDURA® ALIGNMENT SYSTEMS



NUDURA® Alignment Systems are specifically designed for use with NUDURA® Integrated Building Technology. The system bracing aligns the wall prior to concrete placement, provides a working surface during concrete placement, and is used to plumb the wall after concrete placement.

T FORM UNITS



Builders demanded it, and NUDURA® answered! NUDURA® T Form Units come in a Long "T" and a Short "T" version to provide proper joint overlap. The forms are available in every combination of 5 standard core thicknesses for both the Main and T wall cavities.



UNASSEMBLED PANELS & WEBS



In order to provide as much versatility and flexibility as today's building industry demands, NUDURA® standard, tapered top and brickledge panels are available in unassembled packages. These panels are designed for NUDURA®'s slide-in webs which are available in all 5 standard core thicknesses.



AFFILIATIONS



www.energystar.gov



www.r2000.org



www.forms.org



www.aia.org



www.usgbc.org



NUDURA®
Home Plans

Designed By



www.designbasics.com



ONTARIO MINISTER'S RULING
04-13-117 (13063-R)



13063-R



NER-663

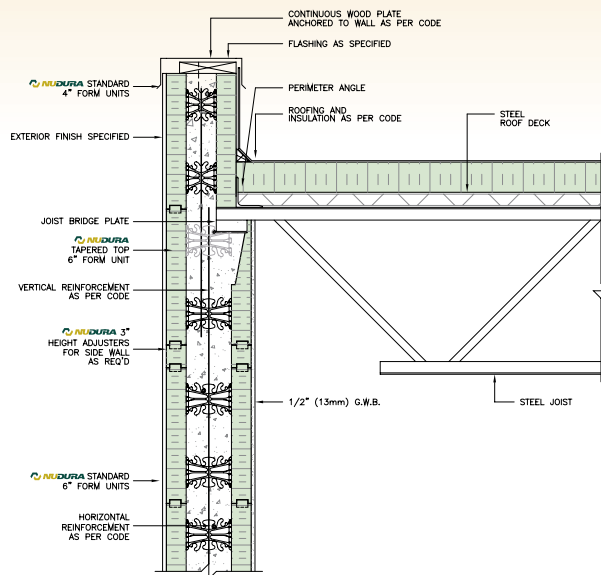
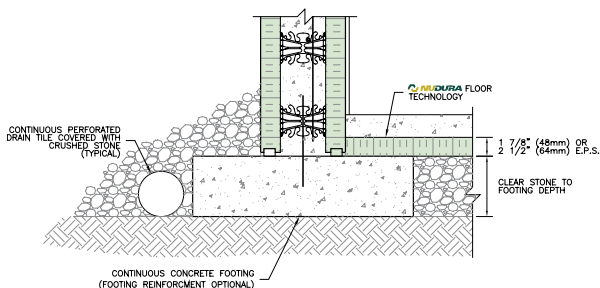
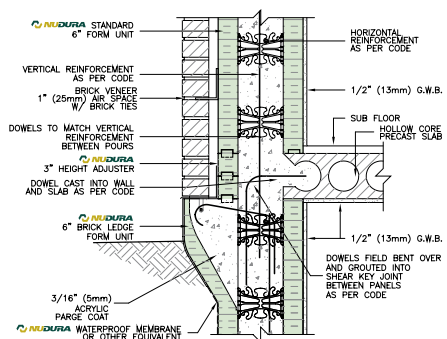
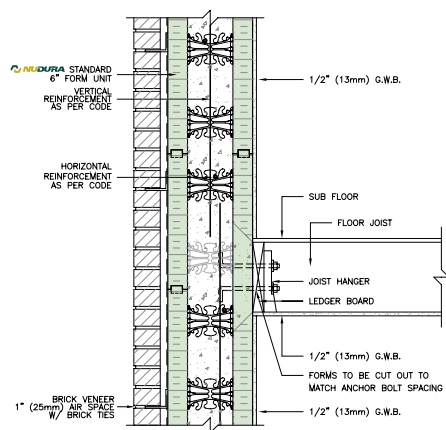
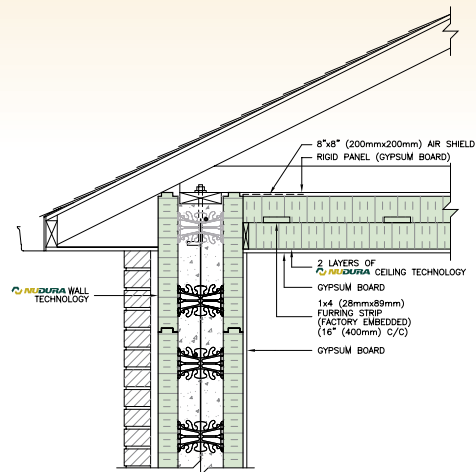


R-6163



Wisconsin Building Products
Evaluation 200427-1

DETAILS AND SPECIFICATIONS



GENERAL SPECIFICATIONS

Flame Ignition Resistance

- * Flash Ignition Temperature of 698°F (370°C) and self ignition Temperature of 806°F (430°C) in accordance with ASTM D1929.
- * A fire retardant is added to NUDURA®'s EPS products during manufacturing.

	Canada*	USA**
Flame Spread	140	10
Smoke Developed	Over 380	300

*from ULC File CR1762 **from UL File R5817(A)
By permission of BASF Corp.

Fire Resistance

- * 6" (150mm) concrete core provides a fire resistance rating of 3 hours.

Energy Efficiency

- * Thermal resistance of R22 (RSI 3.89) (6" (150mm) form unit).
- * Thermal performance of an assembled wall can be double that of a typical wood framed wall, dependent on certain climatic conditions.

Sound Transmissions

- * 6" (150mm) concrete core provides a Sound Transmission Class Rating of 50

Water Vapor Transmission

- * Maximum water permeance rating of 3.50 perms-in (200ng/Pa.s.m²/25mm).
- * Tested average based on total EPS: 1.68 perms-in (96 ng/Pa.s.m²/25mm)

Structural Design Considerations

- * Wall design principle is a monolithic structural concrete wall
- * Designed as reinforced concrete in accordance with all applicable US prescriptive tables per IRC, SBC, Florida Building Code, PCA/NAHB EB118 or Engineered design as per CAN/CSA A23.3 (Canada) or ACI 318 (USA)

Finishing Requirements

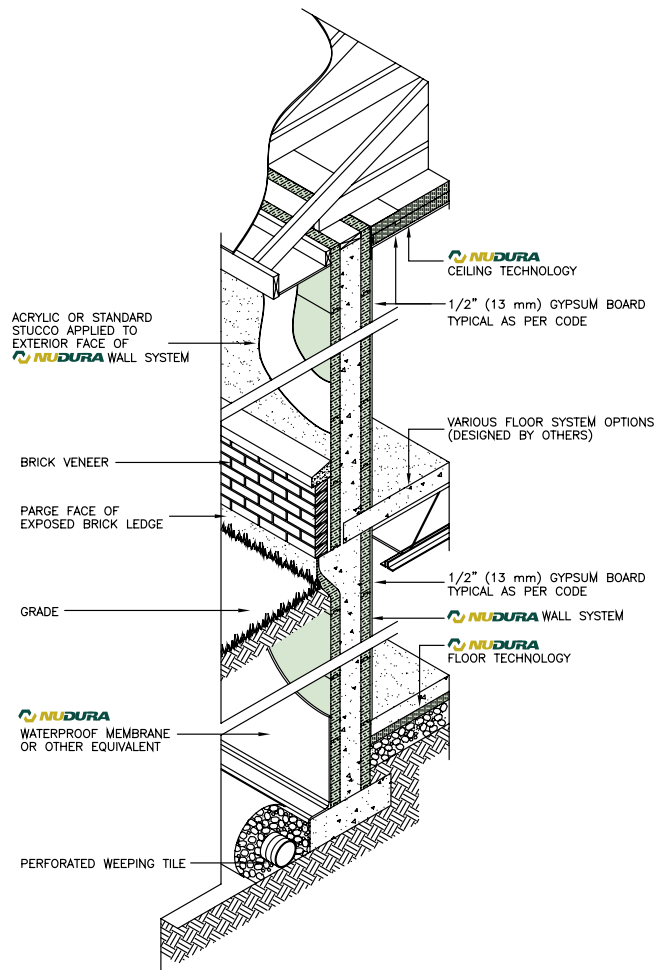
- * Waterproofing/damp proofing and drainage as required by building code compatible with EPS.
- * Interior face of NUDURA® wall shall be protected with an approved thermal barrier (typically minimum 1/2" (12.7mm) G.W.B.) as required by building code.
- * Exterior face of NUDURA® wall shall be protected with approved conventional exterior finish materials such as siding, brick or stucco etc.

Testing

- * Report of successful completion of **Expanded Polystyrene Test** in accordance with CAN/ULC S701-97
- * **Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation** in accordance with ASTM C578-95 and confirmatory testing in accordance with ASTM C578-01
- * **3 Hour Fire Resistance Rating** per -Intertek Testing Services per ASTM E119 and Can/ULC-S101
- * **Room Fire Test Standard for Interior of Foam Plastic Systems** in accordance with UBC 26-3/NFPA 286
- * **Standard Test Method for Determining Ignition Temperature of Plastics** in accordance with ASTM D1929.D635, and D2843
- * **Thermal Resistance (R-Value)** in accordance with ASHRAE Fundamentals Handbook 2001
- * **Fastener Pullout Evaluation** report by Bodycote Material Testing Canada Inc.
- * **Standard Test Methods for Mechanical Fasteners in Polypropylene Web Material** in accordance with ASTM D1761-88
- * **Fastener Holding & Shear Strength Evaluation** of NUDURA® Wall Technology utilizing Gypsum Board report by Bodycote Material Testing Canada Inc.

NUDURA® INTEGRATED BUILDING TECHNOLOGY ACCESSORIES

- NUDURA® Wall Alignment System and Tall Wall Adaptors
- NUDURA® Easy Buck for doors & windows
- NUDURA® Low-Expansion Foam
- NUDURA® Form Lock
- NUDURA® Waterproofing material
- Fiber mesh and acrylic parge coat
- NUDURA® Floor Technology
- NUDURA® Ceiling Technology



WHERE CAN YOU GET NUDURA®

NUDURA® has a well-supported distributor and contractor network. Our Distributors have professionally trained personnel to support you throughout your construction process.



Contact us for more information. 1-866-468-6299 www.nudura.com

Tel: 705-726-9499 Toll Free: 1-866-468-6299 Fax: 705-726-2110

The NUDURA® name and logo are trademarks of NUDURA® Corporation.

The performance claims referred to in this Brochure are based on a comparison between a typical 8' high NUDURA® wall with a 6" core, properly built to the National Building Code of Canada (NBC) and installed in accordance with NUDURA® Corporation's specifications and a typical 8' high 2"x 6" wood-framed wall insulated with R20 batt insulation, properly built to NBC and with regard to "fire resistance" on ratings listed in the NBC, with regard to "sound resistance" on ratings listed in the NBC and in the study "Insulating Concrete Forms" by VanderWerf, Feige, Chammas and Lemay, with regard to "durable" and "comfort" on an independent analysis and with regards to "energy efficiency" in the study "Energy Consumption of Concrete Homes Versus Wood Frame Homes" published by Dr. Pieter VanderWerf for the Portland Cement Association. Such performance claims may vary depending on certain atmospheric conditions and geographic locations.