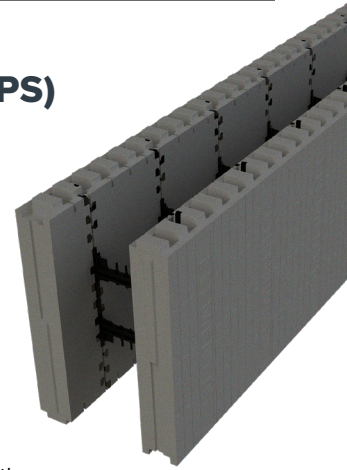




Graphite Polystyrene (GPS) Rigid Insulation



Element Chrome Insulated Concrete Forms (ICF) is an innovative hybrid ICF system offering an ingenious combination of interchangeable preformed and site-assembled blocks.

Element Chrome ICF is produced from insulation beads made from graphite infused expanded polystyrene (GPS), which offers up to 18% more thermal resistance than conventional expanded polystyrene insulation (EPS).

Element Chrome ICF consists of a series of flame-resistant GPS foam panels and polypropylene connector webs known as Flexties™. Two Element Chrome panels and six Flexties compose a preformed block or are assembled on site to form a site-assembled block. Element Chrome ICF panels are a minimum of 2.75 inch (70mm) thick. The Flexties lock in place into the center locking channels of the side webs molded into the Element Chrome ICF panels to create a preformed or site-assembled Element Chrome ICF blocks with a 6 - 12 inch (152 - 305 mm) concrete core thickness. Each Element Chrome panel contains embedded side webs every 16 inches (406mm) on center vertically. Each side web creates a 1.5 inch (38mm) wide furring strip that is recessed 1/2 inch (12.5mm) behind the exterior foam surface of the block.

The furring strips accommodate fasteners for the attachment of both exterior and interior finishes. The furring strips extend 14.95 inches (380mm) in height creating an all-foam space between courses on the exterior foam side to facilitate easy installation of wiring. Element Chrome's side webs feature extended flanges on the concrete core side that clip together top to bottom to prevent floating and settling during the concrete pour. Additional Flexties can also be locked into the end-locking channels of the side webs in adjacent courses to permanently bond two courses together if desired. The webs facilitate rebar placement in accordance with CAN/CSA A23.1, and ACI 318.

BASIC USE

- Basements & Foundations
- Building code to High Performance Buildings
- Net-Zero Ready or Net-Zero Buildings
- Disaster Resilient Buildings
- Mid-Rise Multi-Family Buildings
- Commercial Buildings
- Educational & Healthcare Facilities

Product Features



Stable Long Term Thermal Resistance (LTTR) R5 Nominal



Environmentally Responsible



Cost-Efficient Above & Below Grade Wall System



4 Building Science Control Layers In One Product (WRB, Thermal Resistance, Air Barrier, Vapor Retarder)

Environmental & Sustainability

- Produced without the use of chlorofluorocarbon (CFCs), hydrochlorofluorocarbon (HCFCs) or formaldehyde. As a result, Element Chrome ICF will not produce harmful emissions to the environment.

Performance Criteria

DESCRIPTION	ASTM C578 (TYPE II EPS)	CAN/ULC S701 (TYPE 2 EPS)	REFERENCED STANDARD TEST METHOD
Thermal Resistance per 1" (25.4mm)	in. R4.7 (RSI 0.83)		ASTM C518
Water Absorption	Max. 4.0%		ASTM D2842
Water Vapor Presence	3.3 perms (200 ng/Pa*s*m2)		ASTM E96
Compressive Strength	≥16 psi (≥110 kPa)		ASTM D1621 & ASTM C165
Flexural Strength	≥35 psi (≥240 kPa)		ASTM C203
Dimensional Stability –Thermal & Humid Aging	≤1.5%		ASTM D2126
Density	Min. 1.4 pcf (22 kg/m3)		ASTM C1622 & ASTM C303
Limiting Oxygen Index	≥24%		ASTM D2863
Flame Spread Index (max thickness)	5 (230)		ASTM E84/CAN ULC S102.2
Smoke Developed Index (max thickness)	25 (500)		ASTM E84/CAN ULC S102

Note: a. Data in table based on Neopor GPS (Graphite Polystyrene) bead by BASF (https://neopor.basf.us/files/neopor_literature/GPS-Plus-Technical-Properties-1inch.pdf) & (https://neopor.basf.us/files/neopor_literature/Neopor-GPS-Technical-Properties_Canada.pdf)



Technical Information

Table 2: System and Web Tie Test Results

PHYSICAL

TEST DESCRIPTION	RESULT	PASS/FAIL CRITERIA	REFERENCED STANDARD TEST METHOD
Shear Strength of Polypropylene Web	18 MPa (2610 psi)	N/A*	ASTM E2634, Figure 2
Average Tensile Strength of Polypropylene Webs	3.11kN (700lbs)	N/A*	ASTM D638

FIRE

TEST DESCRIPTION	RESULT	PASS/FAIL CRITERIA	REFERENCED STANDARD TEST METHOD
Fire Endurance Test	See Fire Resistance Rating table	N/A*	ASTM E119/CAN ULC S101/ANSI UL 263
Standard Room Fire Test	w/in acceptable limits	Met conditions required for exposure to fire for 15 minutes.	UBC 26-3/CAN ULC 1715
Flammability of Polypropylene Webs	CC1 Classification	N/A*	ASTM D635
Smoke Density Rating of Polypropylene Webs	19.1%	Max. 75%	ASTM D2843
Self Ignition Temperature of Polypropylene Webs	680oF	> 650oF	ASTM D1929

FIRE RESISTANCE RATING (ASTM E119 / ANSI UL 263)

Form Size (Concrete Wall Thickness)	Rating with ½" drywall
100mm (4")	2hrs
152mm (6")	3hrs (4hrs if 5/8" drywall used)
203mm (8") and above	4hrs

Bearing load applied to wall = 360,000lbs (360kips)

Sizes

	PANELS	FLEXTIES®
Element Chrome®	2.75 inches (70mm thick)	6, 8, 10, 12 inches (152, 204, 254, 305 mm)

Note: Custom panel sizes are available upon request. Please contact the local Logix Brands dealer or manufacturer.

Manufacturers

- AMC Foam Technologies Inc.
35 Headingley St.
Headingley Manitoba, R4H 0A8
877.789.7622
- Beaver Plastics Ltd.
11581-272 St.
Acheson, Alberta, T7X 6E9
888.453.5961
- Beaver Plastics Ltd.
#215-44393 Simpson Rd.
Chilliwack, BC V2R 5M3
888.453.5961
- Form Solutions
840 Division St.
Cobourg, ON K9A 5V2
888.706.7709
- Form Systems, Inc.
330 Cain Drive
Haysville, Kansas 67060
888.838.5038

Applicable Standards

ASTM C578	Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation
ASTM E2634	Standard Specification for Flat Wall Insulating Concrete Form (ICF) Systems
CAN/ULC-S701	Standard for Thermal Insulation, Polystyrene Boards
CAN/ULC-S717	Standard for Flat Wall Insulating Concrete Form (ICF) Units - Material Properties

Packaging

Element Chrome packaging and bundle sizes vary. Please contact your local Element Chrome manufacturer or dealer to confirm local packaging specifications and available bundle sizes.

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Technical Support

For North American technical inquires please contact the Technical Dept. at: techdept@logixbrands.com

Code Evaluation Approvals

- QAI Evaluation Report CERus 1005
- QAI listing B1031-1
- State of Florida Product Approval 14469-R5
- Wisconsin Building Products Evaluation 20199000



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