

**BASIC USE** ProGUARD DP® is intended to be installed over sheathing and waterproofing over steel or wood studs or over concrete masonry units or poured concrete and waterproofing. It is used to provide an insulated concrete faced substrate for the application of adhered masonry veneers, and synthetic stuccos, while incorporating a drainage plane to allow moisture to drain down the assembly.

**COMPOSITION AND MATERIAL** ProGUARD DP® panels are constructed with either Expanded Polystyrene (EPS) insulation or Extruded Polystyrene (XPS) insulation cut with drainage grooves, or Thermafiber® mineral wool insulation, and laminated directly to 1/4" thick concrete board panels containing cement and aggregates.

### EPS Foam Insulation with SINGLE DRAINAGE PLANE

#### ProGUARD DP® Base Weep Panel

PROGUARD DP® SIZE AND THICKNESS	INSULATION THICKNESS	WEIGHT PER PIECE (LBS.)	R-VALUE PER ASTM C578
1'-0" x 8'-0" x 1-1/4" DP-1	1"	17	2.72
1'-0" x 8'-0" x 1-1/2" DP-1	1-1/4"	18	3.80
1'-0" x 8'-0" x 1-3/4" DP-1	1-1/2"	18	4.89
1'-0" x 8'-0" x 2" DP-1	1-3/4"	18	5.98
1'-0" x 8'-0" x 2-1/4" DP-1	2"	19	7.07
1'-0" x 8'-0" x 2-1/2" DP-1	2-1/4"	19	8.15
1'-0" x 8'-0" x 2-3/4" DP-1	2-1/2"	19	9.24
1'-0" x 8'-0" x 3" DP-1	2-3/4"	20	10.33
1'-0" x 8'-0" x 3-1/4" DP-1	3"	20	11.41
1'-0" x 8'-0" x 3-1/2" DP-1	3-1/4"	20	12.50
1'-0" x 8'-0" x 3-3/4" DP-1	3-1/2"	21	13.59
1'-0" x 8'-0" x 4-1/4" DP-1	4"	21	15.76
1'-0" x 8'-0" x 5-1/4" DP-1	5"	23	20.11
1'-0" x 8'-0" x 6-1/4" DP-1	6"	24	24.46

R-Values are net of drainage grooves on one side (foam thickness less 3/8")

#### ProGUARD DP® Insulated Concrete Board Panel

PROGUARD DP® SIZE AND THICKNESS	INSULATION THICKNESS	WEIGHT PER PIECE (LBS.)	R-VALUE PER ASTM C578 (4.35/IN) @75°F
3'-0" x 8'-0" x 1-1/4" DP-1	1"	52	2.72
3'-0" x 8'-0" x 1-1/2" DP-1	1-1/4"	53	3.80
3'-0" x 8'-0" x 1-3/4" DP-1	1-1/2"	54	4.89
3'-0" x 8'-0" x 2" DP-1	1-3/4"	54	5.98
3'-0" x 8'-0" x 2-1/4" DP-1	2"	56	7.07
3'-0" x 8'-0" x 2-1/2" DP-1	2-1/4"	57	8.15
3'-0" x 8'-0" x 2-3/4" DP-1	2-1/2"	58	9.24
3'-0" x 8'-0" x 3" DP-1	2-3/4"	59	10.33
3'-0" x 8'-0" x 3-1/4" DP-1	3"	60	11.41
3'-0" x 8'-0" x 3-1/2" DP-1	3-1/4"	61	12.50
3'-0" x 8'-0" x 3-3/4" DP-1	3-1/2"	62	13.59
3'-0" x 8'-0" x 4-1/4" DP-1	4"	64	15.76
3'-0" x 8'-0" x 5-1/4" DP-1	5"	70	20.11
3'-0" x 8'-0" x 6-1/4" DP-1	6"	72	24.46

### XPS Foam Insulation with SINGLE DRAINAGE PLANE

#### ProGUARD DP® Base Weep Panel

PROGUARD DP® SIZE AND THICKNESS	INSULATION THICKNESS	WEIGHT PER PIECE (LBS.)	R-VALUE PER ASTM C578
1'-0" x 8'-0" x 1-3/4" DP-1	1-1/2"	18	5.63
1'-0" x 8'-0" x 2-1/4" DP-1	2"	19	8.13
1'-0" x 8'-0" x 2-3/4" DP-1	2-1/2"	19	10.63
1'-0" x 8'-0" x 3-1/4" DP-1	3"	20	13.13
1'-0" x 8'-0" x 4-1/4" DP-1	4"	21	18.13

R-Values are net of drainage grooves on one side (foam thickness less 3/8")

#### ProGUARD DP® Insulated Concrete Board Panel

PROGUARD DP® SIZE AND THICKNESS	INSULATION THICKNESS	WEIGHT PER PIECE (LBS.)	R-VALUE PER ASTM C578
3'-0" x 8'-0" x 1-3/4" DP-1	1-1/2"	54	5.63
3'-0" x 8'-0" x 2-1/4" DP-1	2"	56	8.13
3'-0" x 8'-0" x 2-3/4" DP-1	2-1/2"	58	10.63
3'-0" x 8'-0" x 3-1/4" DP-1	3"	60	13.13
3'-0" x 8'-0" x 4-1/4" DP-1	4"	64	18.13

## EPS Foam Insulation with DOUBLE DRAINAGE PLANE

### ProGUARD DP® Base Weep Panel

PROGUARD DP® SIZE AND THICKNESS	INSULATION THICKNESS	WEIGHT PER PIECE (LBS.)	R-VALUE PER ASTM C578 (4.35/IN) @75°F
1'-0" x 8'-0" x 1-3/4" DP-2	1-1/2"	18	3.26
1'-0" x 8'-0" x 2" DP-2	1-3/4"	18	4.35
1'-0" x 8'-0" x 2-1/4" DP-2	2"	19	5.43
1'-0" x 8'-0" x 2-1/2" DP-2	2-1/4"	19	6.52
1'-0" x 8'-0" x 2-3/4" DP-2	2-1/2"	19	7.61
1'-0" x 8'-0" x 3" DP-2	2-3/4"	20	8.70
1'-0" x 8'-0" x 3-1/4" DP-2	3"	20	9.78
1'-0" x 8'-0" x 3-1/2" DP-2	3-1/4"	20	10.87
1'-0" x 8'-0" x 3-3/4" DP-2	3-1/2"	21	11.96
1'-0" x 8'-0" x 4-1/4" DP-2	4"	21	14.13
1'-0" x 8'-0" x 5-1/4" DP-2	5"	23	18.48
1'-0" x 8'-0" x 6-1/4" DP-2	6"	24	22.83

R-Values are net of drainage grooves on two sides (foam thickness less 3/4")

### ProGUARD DP® Insulated Concrete Board Panel

PROGUARD DP® SIZE AND THICKNESS	INSULATION THICKNESS	WEIGHT PER PIECE (LBS.)	R-VALUE PER ASTM C578
3'-0" x 8'-0" x 1-3/4" DP-2	1-1/2"	54	3.26
3'-0" x 8'-0" x 2" DP-2	1-3/4"	54	4.35
3'-0" x 8'-0" x 2-1/4" DP-2	2"	56	5.43
3'-0" x 8'-0" x 2-1/2" DP-2	2-1/4"	57	6.52
3'-0" x 8'-0" x 2-3/4" DP-2	2-1/2"	58	7.61
3'-0" x 8'-0" x 3" DP-2	2-3/4"	59	8.70
3'-0" x 8'-0" x 3-1/4" DP-2	3"	60	9.78
3'-0" x 8'-0" x 3-1/2" DP-2	3-1/4"	61	10.87
3'-0" x 8'-0" x 3-3/4" DP-2	3-1/2"	62	11.96
3'-0" x 8'-0" x 4-1/4" DP-2	4"	64	14.13
3'-0" x 8'-0" x 5-1/4" DP-2	5"	70	18.48
3'-0" x 8'-0" x 6-1/4" DP-2	6"	72	22.83

## XPS Foam Insulation with DOUBLE DRAINAGE PLANE

### ProGUARD DP® Base Weep Panel

PROGUARD DP® SIZE AND THICKNESS	INSULATION THICKNESS	WEIGHT PER PIECE (LBS.)	R-VALUE PER ASTM C578 (5.00/IN) @75°F
1'-0" x 8'-0" x 1-3/4" DP-2	1-1/2"	18	3.75
1'-0" x 8'-0" x 2-1/4" DP-2	2"	19	6.25
1'-0" x 8'-0" x 2-3/4" DP-2	2-1/2"	19	8.75
1'-0" x 8'-0" x 3-1/4" DP-2	3"	20	11.25
1'-0" x 8'-0" x 4-1/4" DP-2	4"	21	16.25

R-Values are net of drainage grooves on two sides (foam thickness less 3/4")

### ProGUARD DP® Insulated Concrete Board Panel

PROGUARD DP® SIZE AND THICKNESS	INSULATION THICKNESS	WEIGHT PER PIECE (LBS.)	R-VALUE PER ASTM C578 (5.00/IN) @75°F
3'-0" x 8'-0" x 1-3/4" DP-2	1-1/2"	54	3.75
3'-0" x 8'-0" x 2-1/4" DP-2	2"	56	6.25
3'-0" x 8'-0" x 2-3/4" DP-2	2-1/2"	58	8.75
3'-0" x 8'-0" x 3-1/4" DP-2	3"	60	11.25
3'-0" x 8'-0" x 4-1/4" DP-2	4"	64	16.25

## Mineral Wool Insulation with NO DRAINAGE PLANES (Drainage planes are not required as mineral wool is free draining)

### ProGUARD DP® Insulated Concrete Board Panel

PROGUARD DP® SIZE AND THICKNESS	INSULATION THICKNESS	WEIGHT PER PIECE (LBS.)	R-VALUE (4.30/IN) @75°F	MINIMUM ORDER QUANTITY (SQ. FT.)	NO. OF PANELS @ MIN. QTY SQ. FT.
3'-0" x 4'-0" x 1-1/4" DP-0	1"	26	4.30	9000	750
3'-0" x 4'-0" x 1-3/4" DP-0	1-1/2"	27	6.45	6000	500
3'-0" x 4'-0" x 2-1/4" DP-0	2"	28	8.60	4500	375
3'-0" x 4'-0" x 2-3/4" DP-0	2-1/2"	29	10.75	3600	300
3'-0" x 4'-0" x 3-1/4" DP-0	3"	30	12.90	3000	250
3'-0" x 4'-0" x 3-3/4" DP-0	3-1/2"	31	15.05	2570	214
3'-0" x 4'-0" x 4-1/4" DP-0	4"	32	17.20	2250	188
3'-0" x 4'-0" x 5-1/4" DP-0	5"	35	21.50	1800	150
3'-0" x 4'-0" x 6-1/4" DP-0	6"	36	25.80	1500	125



## TECHNICAL DATA

**APPLICABLE STANDARDS** ProGUARD DP® Insulated Concrete Board Panels are tested to the following standards:

ASTM C518	ASTM C578	ASTM D1037	ASTM D1621	ASTM D2842	ASTM E84	ASTM C272
ASTM D3273	NFPA 285	ASTM E96	ASTM D2394	ASTM D696	ASTM C947	

**PHYSICAL/CHEMICAL PROPERTIES** ProGUARD DP® Insulated Concrete Board Panels exhibit the properties and characteristics indicated in the charts below. When properly installed, prolonged exposure of the Util-A-Crete® concrete board surface will not be significantly damaged by exposure to ultraviolet radiation. All joints and exposed foam edges should be sealed prior to any extended exposure.

### Util-A-Crete® Concrete Board Facing

PERFORMANCE PROPERTY	TEST METHOD	VALUE
Compressive Strength	ASTM D2394	≥2600
Flexural Strength	ASTM C947	≥1500
Linear Variations with change in Moisture to Air dry (50% R.H., 73°)	ASTM D1037	
Width		0.02%
Length		0.02%
Weight per Square Foot (lbs)		2
Fastener Pull Through (lbs)	ASTM D1037	≥195
Bond Strength (lbs) (Ceramic Tile Wet & Dry)	ASTM A118	≥50
Flame Spread	ASTM E84	5
Smoke Developed	ASTM E84	0
NFPA 285	NFPA 285	PASS

### Dow Extruded Polystyrene Insulation (XPS) \* Value with Util-A-Crete concrete skin adhered

PERFORMANCE PROPERTY	TEST METHOD	VALUE
Nominal Density (lbs/ft³)	ASTM C303	1.55
Compressive Strength (psi)	ASTM D1621	25
R-Value per Inch of Material (75°F mean temp)	ASTM C518	5
Water Absorption (% by volume Max)	ASTM C272	0.30
Water Vapor Permeance (perm) 2"	ASTM E96	<0.6 *
Flame Spread	ASTM E84	5
Smoke Developed	ASTM E84	165
NFPA 285	NFPA 285	PASS

## INSTALLATION

**DELIVERY** ProGUARD DP® Insulated Concrete Board Panels are delivered to site in protective packaging. ProGUARD DP® Mineral Wool Panels should be shipped in vans with pallet jacks in lieu of flat-bed trailers.

**HANDLING** Lift Skids with proper and sufficiently long slings or forks with protection to prevent damage to panels. Protect edges and corners.

**STORAGE** Store ProGUARD DP® Insulated Concrete Panels in a manner designed to prevent damage and staining and contamination. Stack panels on timber platforms at least 3" above grade. Cover stored skids if exposed to extreme weather conditions. Do not use de-icing compounds to remove ice from the ProGUARD DP® panel surfaces. Protect panels from abuse, damage and contamination prior to installation of exterior wall finishes. ProGUARD DP® Mineral Wool Panels should be stored indoors or in a location where it is warm and dry until they can be installed on the wall.

**INSTALLATION** ProGUARD DP® must be installed using approved materials and techniques for each specific installation. Refer to the ARRIS-CRAFT•CADD Library for applicable details. Construct ProGUARD DP® Insulated Concrete Panels in accordance with all applicable codes and standards and any local requirements stipulated by the authorities having jurisdiction.

### Expanded Polystyrene Insulation (EPS) \* Value with Util-A-Crete concrete skin adhered

PERFORMANCE PROPERTY	TEST METHOD	VALUE
Nominal Density (lbs/ft³)	ASTM C303	2.0
Compressive Strength (psi)	ASTM D1621	25
R-Value per Inch of Material (75°F mean temp)	ASTM C518	4.35
Water Absorption (% by volume Max)	ASTM C272	<2.0
Water Vapor Permeance (perm) 2"	ASTM E96	<0.6 *
Flame Spread	ASTM E84	<25
Smoke Developed	ASTM E84	<450
NFPA 285	NFPA 285	PASS

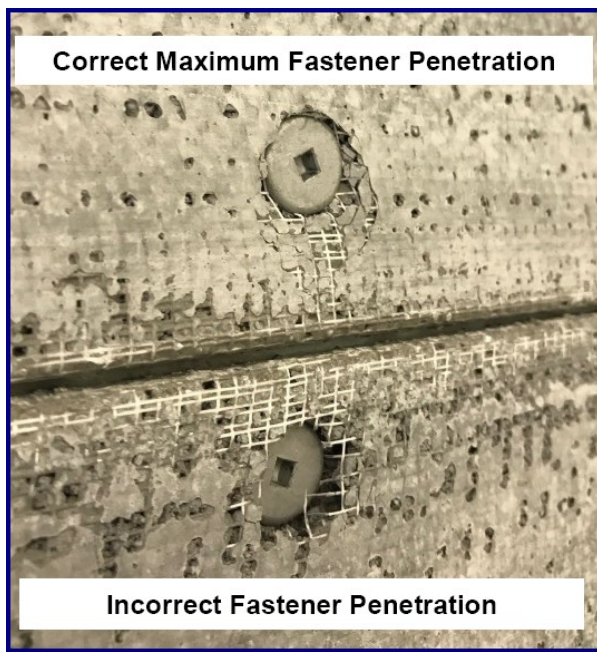
### Thermafiber® Mineral Wool Insulation

PERFORMANCE PROPERTY	TEST METHOD	VALUE
Nominal Density (lbs/ft³)	ASTM C303	6.0
R-Value per Inch of Material (75°F mean temp)	ASTM C518	4.3
Water Absorption (% by volume Max)	ASTM 1104	0.03
Water Vapor Permeance (perm)	ASTM E96	50 (unfaced)
Flame Spread	ASTM E84	0
Smoke Developed	ASTM E84	0



A suitably solid substrate should be provided to support the ProGUARD DP® panels. Suitable substrate options include steel or wood stud with exterior grade sheathing, poured concrete, or concrete masonry units (CMU). Installation on other substrates may be possible. Contact Arriscraft Technical Services for information on installation over specific substrates. The substrate shall be installed plumb and level. Steel studs should be 18-gauge minimum (16-gauge is preferred). Design substrate for a maximum allowable deflection of L/600 (L/720 preferred). If using wood or steel studs then install exterior grade sheathing (such as glass-mat reinforced gypsum board or plywood) per manufacturer's recommendations with proper screw placement and attachment.

Only use approved ProGUARD DP® screws to install ProGUARD DP® panels. Do not substitute with any other screw, as this could void the ProGUARD DP® warranty. Length of screws will depend on panel thickness and substrate selection. When fastening the ProGUARD DP® panels, the screw heads should not break the outer mesh embedded in the concrete board. In the below photo, the top fastener is correct, with the fastener head flush with the concrete board without breaking the outer mesh. The bottom fastener is incorrect as it has broken through the mesh.



Engineer of Record should select screws and screw spacing using [NTA Report TRIG030116-28](#). Screw spacing will be dependent on weight of the thin adhered masonry veneer or synthetic stucco application, insulation thickness, wall height, wind pressure, wind speed, and whether the installation is a **supported** or **unsupported** panel application.

**Supported** applications consist of installing 16-gauge steel flashing/panel support (ideally prefinished or with a G-90 coating) at the base of all walls, above wall openings, and at deflection joints in the stud assembly. Attach the steel flashing at 16" o.c. back to the studs or solid substrate behind, using ProGUARD DP® screws (shorter lengths of the same screws used to secure the ProGUARD DP® panels). The steel flashing should extend 6" up the wall and the horizontal leg should project a minimum of 1/2" beyond the face of the ProGUARD DP® panel face (i.e. horizontal leg is based on the thickness of the ProGUARD DP® panels plus 1/2"). Install bent metal drip edge over flashing/panel support, set in bead of silicone sealant. Panels are also considered supported if resting on the foundation ledge or the flashing/panel support.

If 16-gauge steel flashing/panel support is not used or it is not resting on the foundation wall or footing then this would be a ProGUARD DP® **unsupported** panel application, which would mean the screws would be accepting all the loads, which would likely result in additional screws and a tighter screw spacing requirement.

**ProGUARD DP® Self-Drilling Silver C#14 DP1 (Wood/Steel Stud, CMU, Masonry or Poured Concrete) Screws with Pancake Head Drill & Tap up to 16 Ga. Steel - TriSeal Coated (concrete substrates must be pre-drilled with a pilot hole)**

PRODUCT	QUANTITY	APPROX. WEIGHT
1-1/2" Silver C#14 DP1	2500	42.5
1-1/2" Silver C#14 DP1	100	2.0
2" Silver C#14 DP1	1000	21.0
2" Silver C#14 DP1	100	2.2
3" Silver C#14 DP1	1000	28.0
3" Silver C#14 DP1	100	3.0
4" Silver C#14 DP1	500	17.0
4" Silver C#14 DP1	100	3.5
4-1/2" Silver C#14 DP1	500	19.0
4-1/2" Silver C#14 DP1	100	4.0
5" Silver C#14 DP1	500	20.0
5" Silver C#14 DP1	100	4.2
6" Silver C#14 DP1	500	24.0
6" Silver C#14 DP1	100	5.0
7" Silver C#14 DP1	500	27.0
7" Silver C#14 DP1	100	5.5
8" Silver C#14 DP1	250	17.0
8" Silver C#14 DP1	100	7.0
9" Silver C#14 DP1	250	19.0
9" Silver C#14 DP1	100	7.7

**ProGUARD DP® Self-Drilling Silver C#14 DP3 (Wood/Steel Stud, CMU, Masonry or Poured Concrete) Screws with Pancake Head Drill & Tap up to 1/4" Steel - TriSeal Coated (concrete substrates must be pre-drilled with a pilot hole)**

PRODUCT DESCRIPTION	QUANTITY PER BOX	APPROX. WEIGHT PER BOX
2" Silver C#14 DP3	1000	19.0
3" Silver C#14 DP3	1000	27.0
4" Silver C#14 DP3	500	17.0
5" Silver C#14 DP3	500	21.0
6" Silver C#14 DP3	500	25.0
7" Silver C#14 DP3	500	25.0
8" Silver C#14 DP3	250	17.0

Please call Arriscraft Technical Services if there are any questions about the screws or screw spacing.



ProGUARD DP® panels may need to be cut to length or height depending on the particular circumstances on the project such as between openings, short walls, or arriving at building corners. Panels may be cut with a circular saw or a table saw with a masonry blade if cutting both the foam and the concrete board face, or a hot wire saw if only cutting through the foam insulation (i.e. mitering the foam edge for a corner condition).

Corner conditions can be treated in one of three ways:

- Miter the back of the panels at 45 degrees for 90 degree/right angle corners (vary the angle of the cuts for different corner angles). This will ensure the corner is covered with concrete board and no insulation edges will be exposed.
- Cut a notch out of the foam to create a recess at the edge of the first panel that is to be placed at the corner condition. Cut this notch width to the thickness of the panel it will receive at the corner to create a rabbeted lip which will provide a long concrete board edge to cover the foam edge of the other adjoining panel at the corner.
- Order and utilize the 1/4" wide concrete board strips (pre-cut to the thickness of the ProGUARD DP® panels) and adhere them to the exposed foam return edge with PRO100 SikaFlex 11FC Polyurethane Sealant/Adhesive.

Joint panels such as corners or butt joints between panels, regardless of their construction (mitered, butt joint, adhered concrete board strips) must be treated with alkali-resistant mesh tape and mudded over using the applicable bonding mortar. Contact Arriscraft Technical Services for further information.

For full installation instructions, refer to the appropriate Arriscraft ProGUARD DP® Installation Guide for the chosen substrate. Installation Guide options include steel or wood stud over exterior grade sheathing, and poured concrete / CMU substrates.

## AVAILABILITY AND COST

**AVAILABILITY** ProGUARD DP® Insulated Concrete Board Panels are available worldwide. Delivery times for orders will vary based on the complexity of the order. T-Clear and Arriscraft cannot be responsible for delays due to fire, acts of God or any other cause beyond its control or which could not be reasonably foreseen. Contact Arriscraft for a list of dealers in your area.

**COST** Quoted on a project basis for job-specific manufacturing to project requirements.

## WARRANTY

T-Clear warrants ProGUARD DP® for a period of 15 years to be free of material defects, provided the products have been erected and used according to the accepted standards, within the guidelines of local building codes and as recommended by the manufacturer. Complete Warranty information is outlined on the ProGUARD DP® standard form of Product Warranty.

## MAINTENANCE

Not applicable. This will be a function of the finish system applied to the surface of the ProGUARD DP® panels.

## TECHNICAL SERVICES

Arriscraft offers consultation services to assist with the preparation of details, specifications, installation, and pricing. Enquiries are attended to promptly and without obligation.

## RELATED REFERENCES

Arriscraft distributes an integrated technical information system, comprised of the following components:

- ARRISCRAFT•CADD are sample details which are available in .dwg, .dxf, and .pdf formats.
- ARRISCRAFT•DATA are product data sheets.
- ARRISCRAFT•NOTE are technical discussions with respect to building construction issues.
- ARRISCRAFT•SPEC are master guide specification sections.

These technical resources are available for download at [www.arriscraft.com](http://www.arriscraft.com).

Arriscraft also makes available samples and copies of test reports upon request.

