

COMPLETE WATERPROOFING ONE COMPANY

CCW provides a complete line of waterproofing solutions and the expertise to help you select the one that is best for your project.



CCW Deck Coatings



ECO-FAST II Deck Coating System



CCW-500R



Barricoat-S



CCW-525



CCW MiraDRI 860/861



CCW MiraCLAY



CCW MiraDRAIN



Air/Vapor Barrier Systems

CCW WEB

Visit Our Web Site at www.carlisle-ccw.com

- Updates
- Data Sheets
- Contacts
- Guide Specifications
- Architectural Details
- Technical Bullet ins

LIMITED WARRANTY

Carlisle Coatings & Waterproofing Incorporated (Carlisle) warrants this product to be free of defects in workmanship and materials only at the time of shipment from our factory. If any Carlisle materials prove to contain manufacturing defects that substantially affect their performance, Carlisle will, at its option, replace the materials or refund its purchase price.

This limited warranty is the only warranty extended by Carlisle with respect to its materials. There are no other warranties including the implied warranties of merchantability and fitness for a particular purpose.

Carlisle specifically disclaims liability for any incidental, consequential or other damages including but not limited to, loss of profits or damages to a structure or its contents arising under any theory of law whatsoever.

The dollar value of Carlisle's liability and buyer's remedy under this limited warranty shall not exceed the purchase price of the Carlisle material in question.

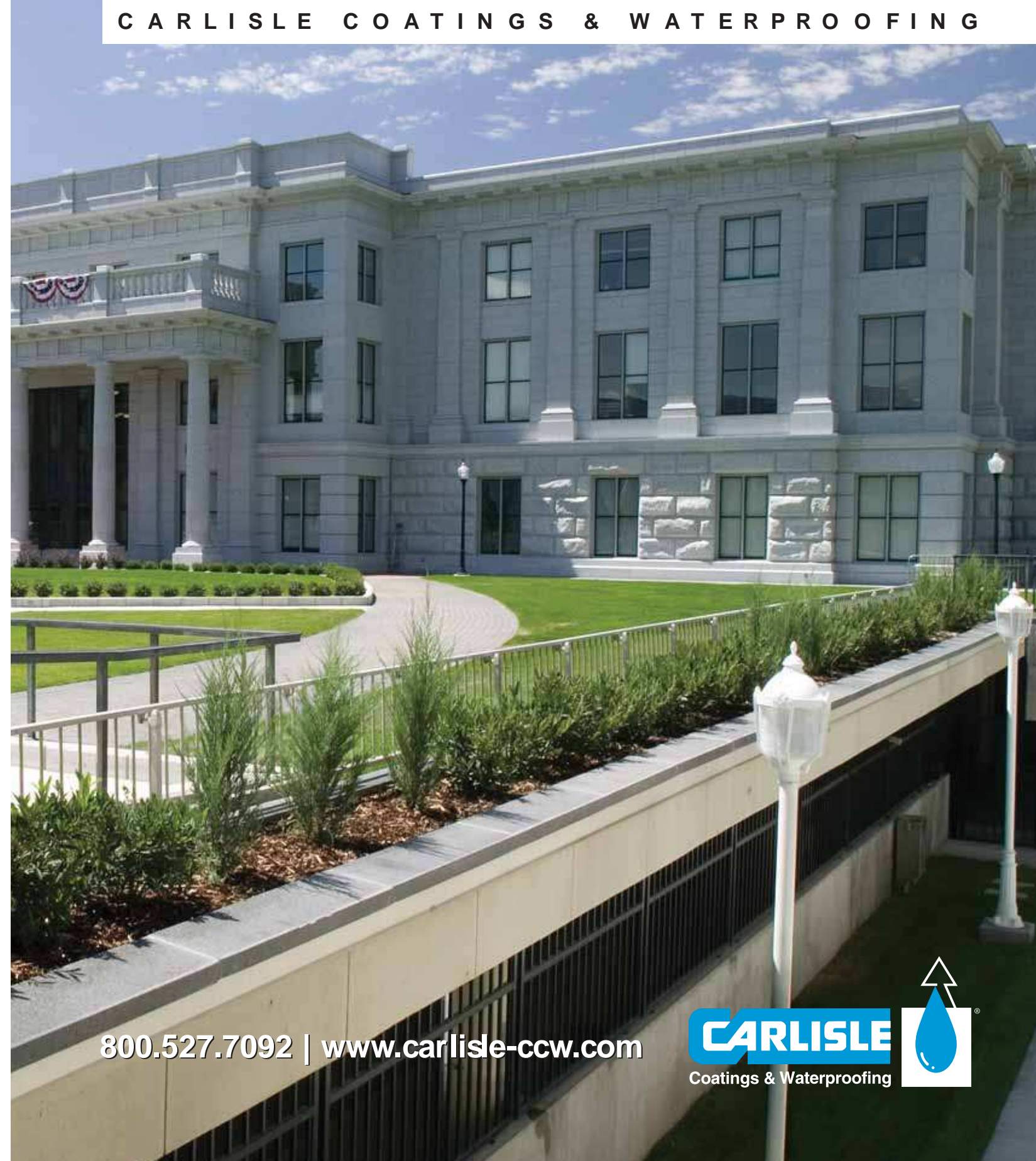
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CCW GREEN ROOF SYSTEMS

Green Roof Products, Designs and Solutions

C A R L I S L E C O A T I N G S & W A T E R P R O O F I N G



800.527.7092 | www.carlisle-ccw.com



CCW GREEN ROOFS

Now you have the freedom to design an aesthetically pleasing landscaped roof with the security of the best waterproofing in the business. Carlisle Coatings & Waterproofing Incorporated (CCW) the known leader in above- and below-grade waterproofing, offers multiple solutions for waterproofing and designing green roof systems. Specifying a system that provides the environmental benefits of clean air, reduced water run-off and energy conservation, with the dependability of CCW's waterproofing technology, is what architects, specifiers and building owners are demanding from green roof systems.

Established in Europe, green roofs are known to be both functional and aesthetically appealing when the correct system design and products are applied. These roofs offer sustainability and energy efficiency while adding plant life in populated areas. Green roofs meet the objectives of many of the mandates to improve the air quality of cities by mitigating the effects of urban heat island caused by ever-increasing development. The benefits of the modern green roof have been seen with the U.S Green Building Council's endorsement of these systems through the LEED® (Leadership in Energy Efficient Design) Green Building Rating System®.

The waterproofing protection is a single-component membrane, either rolled,

sprayed or laid, that forms a tough flexible membrane, which adheres tenaciously to concrete substrates. This low-maintenance system also provides ecological benefits, contributing to municipal goals of decreasing heat islands and reducing run-off while increasing green spaces.

CCW provides a broad range of solutions to meet specific waterproofing needs. CCW offers technical services, research and development and manufacturing capabilities from its headquarters in Wylie, Texas and three additional manufacturing facilities in Terrell, TX; Elberton, GA and Carlisle, PA. The CCW network is further supported by over 50 manufacturer's sales representatives directed by regional sales offices throughout the country. CCW offers a complete line of waterproofing and moisture protection products for the architectural, general construction, industrial and maintenance industries. Carlisle Coatings & Waterproofing Incorporated, is part of the SynTec Division of Carlisle Companies, Inc., which is a publicly traded company on the NYSE.



CCW-500R Waterproofing System is one of the essential components available for CCW Green Roofs.



A completed CCW Green Roof, Utah State Capital, Salt Lake City, Utah



FEATURES AND BENEFITS

- Increase Building Value
- Add Recreational Square Footage to Building
- Reduce Rooftop Temperatures
- Reduce Urban Heat Island
- Stormwater Management by Retaining Rainfall
- Improve City & Building Energy Efficiency
- Maintain Natural Processes by Reducing Airborne Pollution and Generating Oxygen

CCW ROOFTOP PLANTING SOLUTIONS FOR EVERY APPLICATION

Carlisle Coatings & Waterproofing realizes each green roof is unique. CCW is teamed with RoofScapes to create a completely warranted CCW Green Roof that meets each building's needs. CCW also works with landscape designers to create custom green roof systems.

CCW provides the following information to assist customers in evaluation of expected weight loads of our waterproofing systems in CCW Green Roof applications.

The weights are lab test reported in square foot increments with:

- Dry (defined as absence of water)
- Saturated (exposed to water until excess water flows away)
- Flood Weight (drain failure condition to assess weight of system in a capacity mode)

Important Note: Soil weights are not available as soils are not standardized. Carlisle advises potential soils be weighed dry and saturated prior to weight designs.

PRODUCT WEIGHTS

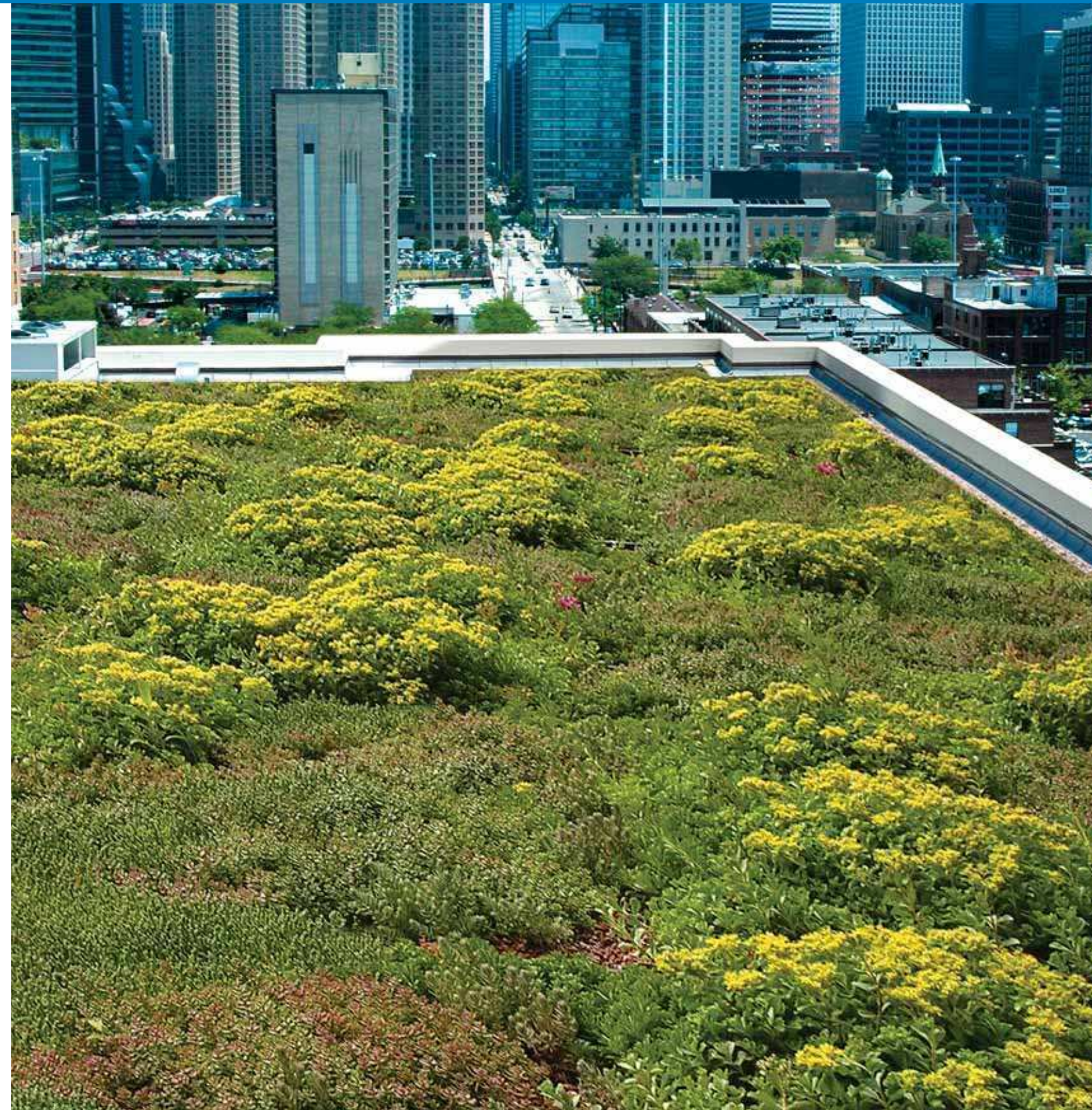
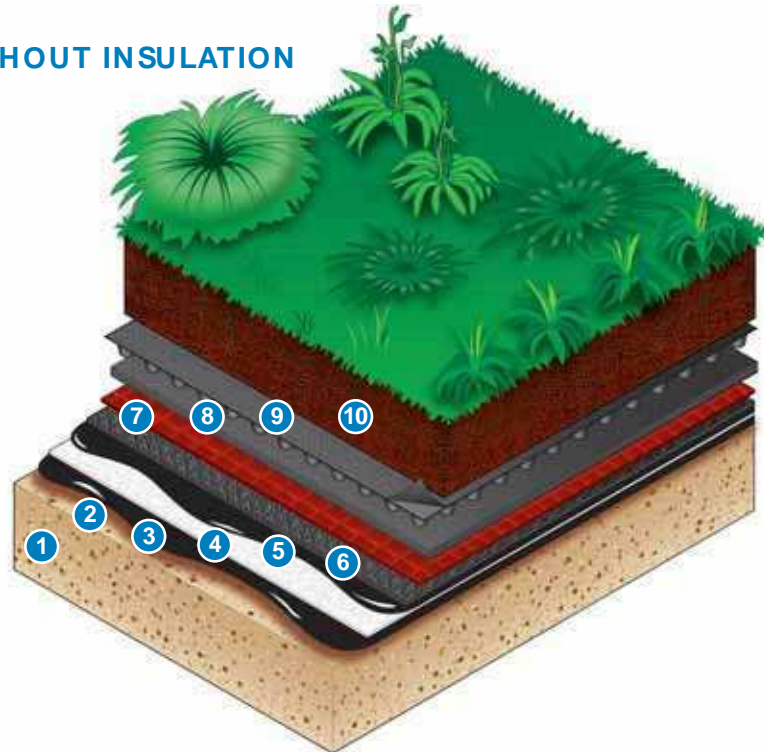
Product	Dry Weight sq ft	Saturated Weight sq ft	Flood Weight sq ft	Water Retention sq ft
Solids Content	563 g / 1.24 lb *	*	*	minimal
CCW-Protection Course-V	26 g / 0.06 lb	(51 g)	*	25 g or 1 oz
CCW-Protection Course-H	287 g / 0.63 lb *	(333 g) *	*	46 g / 0.1 lb or 1.6 oz *
CCW-Protection Course-HS	259 g / 0.57 lb	(280 g)	*	21 g or 1 oz
Root Barrier	49 g / 0.1 lb *	*	*	minimal
MiraDRAIN® GR 9200	106 g / 0.23 lb*	*	*	174 g/0.38 lb or 6 liquid oz*
CCW 300HV	46 g / 0.1 *	(360 g) / 0.80 lb*	*	314 g/0.69 lb or 11 liquid oz
CCW 200V	28 g / 0.06 lb	(190 g) / 0.42 lb	*	162 g/0.36 lb or 5.5 liquid oz
System Weights	1,336 g / 2.95 lb	2,178 g / 4.80 lb	3,238 g / 7.13 lb	842g/1.85 lb or 29 liquid oz

* Components used in each column that make up the total "System Weights" listed

The discrepancy in the saturated assembly weight and the components is due to water entrapped between the layers within the assembly.

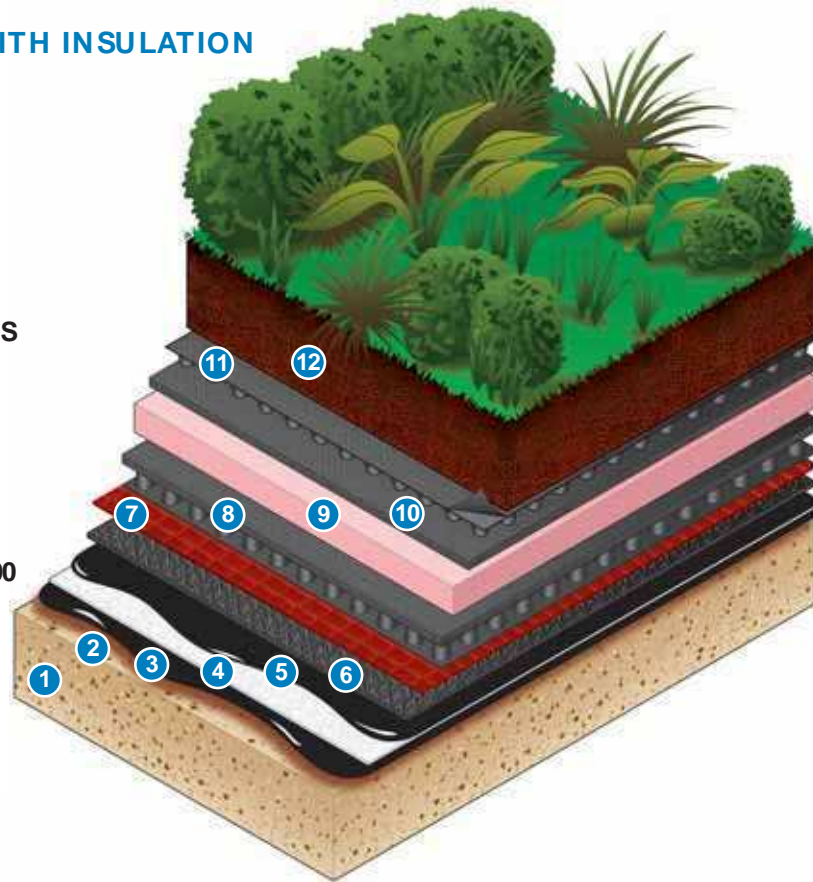
CCW GREEN ROOF WITHOUT INSULATION

- 1 Concrete Substrate
- 2 CCW-550 Primer
- 3 90 mils of CCW-500
- 4 CCW Reinforcing Fabric
- 5 125 mils of CCW-500
- 6 CCW-Protection Board HS
- 7 Root Barrier
- 8 CCW 300HV
- 9 CCW MiraDRAIN GR9200
- 10 Six Inches or Less of Soil



CCW GREEN ROOF WITH INSULATION

- 1 Concrete Substrate
- 2 CCW-550 Primer
- 3 90 mils of CCW-500
- 4 CCW Reinforcing Fabric
- 5 125 mils of CCW-500
- 6 CCW-Protection Board HS
- 7 Root Barrier
- 8 CCW MiraDRAIN 9900
- 9 Insulation as required
- 10 CCW 300HV
- 11 CCW MiraDRAIN GR9200
- 12 6" to 10" of soil



CCW PLANTERS

- 1 Concrete Substrate
- 2 CCW-550 Primer
- 3 90 mils of CCW-500
- 4 CCW Reinforcing Fabric
- 5 125 mils of CCW-500
- 6 CCW-Protection Board HS
- 7 Root Barrier
- 8 CCW MiraDRAIN 9800
- 9 10" or more of soil

Species	Mature Height (in)	Mature Width (in)	Flower Color	Months in Bloom
Allium schoenoprasum 'Forescate'	12-18	18-24	Pink	May
Sedum acre	2-3	12-18	Yellow	June
Sedum album	3-6	12-18	White	J
Sedum album 'Coral Carpet'	3-6	12-18	White	J
Sedum 'Bailey's Gold'	3-6	12-18	Yellow	JA
Sedum caudicola 'Lidakense'	8-12	6-8	Pink	AS
Sedum hybridum 'Immergrunnen'	3-6	18-24	Yellow	J
Sedum kamtschaticum	6-8	12-18	Yellow	MJA
Sedum reflexum	6-8	12-18	Yellow	July
Sedum rupestre 'Forsteranum'	3-7	12-18	Yellow	J
Sedum sexangular	6-8	6-8	Yellow	J
Sedum spurium 'Dragon's Blood'	3-6	12-18	Rose Red	J
Sedum spurium 'Fuldaglut'	3-6	12-18	Ruby Red	J
Sedum ternatum	6-8	12-18	White	May
Sedum X 'Vera Jameson'	8-12	12-18	Magenta	August
Sempervivum tectorum	3-6	3-6	Red	July
Sempervivum tomentosum	3-6	3-6	Pink	July

*Note: All standard orders contain a variety of five pre-selected sedum species. Custom plant selection is available upon request and subject to additional charges.
* Consult a structural engineer to determine load capabilities of the building prior to installation.*



CCW GREENGRID® SYSTEM

The Carlisle Coatings & Waterproofing GreenGrid® System offers distinct advantages over more complex systems with its simplicity in design, pre-planted modules and movable modular features.



FEATURES AND BENEFITS

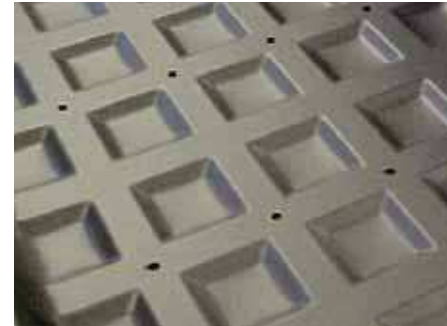
- Single-source responsibility. Roofing contractors can install both the waterproofing and the Roof Garden System in one installation
- No planting on the roof. Trays are pre-planted before arriving at the jobsite, including the root barrier, soil media and plants
- The trays can be easily removed for a roof repair
- Building owners obtain single-source warranty coverage
- Easy to handle and fast to install
- Tray is a cost-competitive alternative

Standard GreenGrid System Includes:

- Tray depth: 4"
- 4" tray - weighs 15 psf (fully saturated with water)
- Tray sizes: 2' x 4', 2' x 2' (fill product), 40" x 40" (larger designs)
- Plantings: Sedum 10" O.C.

Custom GreenGrid System Options:

- Tray depth: 8"
- 8" tray - weighs 28 psf (fully saturated with water)
- Tray sizes: 2' x 4'
- Two more plants per tray for quicker fill
- Plantings: Sedum, other plants and special patterns



CCW GREENGRID ASSEMBLY

- 1 Concrete Substrate
- 2 CCW-550 Primer
- 3 90 mils of CCW-500
- 4 CCW Reinforcing Fabric
- 5 125 mils of CCW-500
- 6 CCW-Protection Board HS
- 7 CCW MiraDRAIN GR9200
- 8 GreenGrid with four inches of Soil and Sedums



CCW GREEN ROOF WATERPROOFING OPTIONS—Every Product, Every System

Waterproofing—Hot-Applied



CCW-500 Hot-Applied
 CCW-500 reinforced, hot-applied, liquid membrane system prevents water migration on both vertical and horizontal surfaces. This seamless, monolithic system offers full adhesion to most substrates. CCW-500 is an excellent waterproofing solution for green roof planting systems, plaza decks, roof terraces and planters.



Waterproofing—Liquid-Applied



CCW-525 Liquid-Applied
 CCW-525 can easily be applied to green roof substrates with its single-person, one-step application. Forming a monolithic membrane, this one-part, cold-applied liquid material cures tenaciously to concrete and is ideal for penetrations and angle changes. CCW-525 is a primerless system needing nothing more than a clean, dry surface.

Waterproofing—Sheet-Applied



Sure-Seal® Butyl Sheet-Applied
 Sure-Seal Butyl is a strong and reliable waterproofing membrane that is virtually impermeable to water and water vapor. Sure-Seal Butyl's exceptional puncture resistance and exposure properties coupled with high elongation and tensile strength contribute to the product's outstanding durability. Available in 60-, 90- and 120-mil thicknesses.

Protection Board



CCW Protection Boards
 CCW Protection Boards are tough membranes that provide positive protection to the waterproofing membrane during installation of other work. CCW Protection Board H and HS are designed for installation horizontally in the CCW-500R System. CCW Protection Board V is designed as a vertical protection course on waterproofing membranes.

Water Retention—Drainage



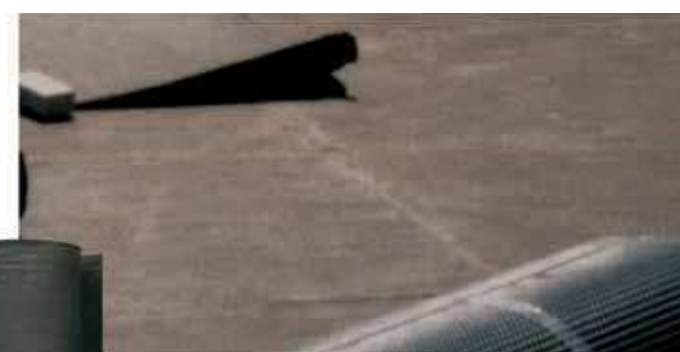
CCW MiraDRAIN GR9200 & HC
 CCW MiraDRAIN GR9200 is designed specifically for green roofs and large planter applications. CCW MiraDRAIN HC provides a deeper reservoir for added water retention. Used with CCW waterproofing these drainage composites provide adequate water retention for sedums, grasses and plant life, while providing a channel for excess water to drain.

Root Barrier



Root Barrier Membrane
 Carlisle Coating & Waterproofing's Root Barrier membrane is a high-strength, specially formulated membrane designed for the CCW Green Roof and CCW-500R Waterproofing Systems. It does not contain plasticizers that can migrate to the surface and attack some asphalt-based materials. Root-Barrier is a 16-mil (0.41 mm) thickness membrane made from a layer of tightly woven HDPE scrim with a continuous two-mil (.05 mm) polymeric coating on both sides. (Color of roll may vary from image shown.)

Water Retention—Moisture Mat



CCW 300HV
 CCW 300HV is a 16-ounce per square yard, needle punched polypropylene fabric which aids in the water-retaining volume of green roof systems. Nonbiodegradable, resistant to mildew, insects and common soil chemicals, CCW 300HV is installed between the Root Barrier and CCW MiraDRAIN drainage composite where it benefits plant growth without disturbing the waterproofing layers below.

Engineered Soils



Carlisle Engineered Growth Media
 A lightweight FLL-approved growth media used for roof garden applications. Applied at the specified depth on Carlisle Roof Garden assemblies.