GuardianCoil is a highly engineered, innovative system that provides Dynamic Blast Protection for high-threat facilities: government buildings, airports, embassies, palaces, hotels, and other critical or vulnerable infrastructure.

GuardianCoil material flexes in a predictive and repeatable way to absorb the forces of the blast, rather than transmitting them to the building structure or its occupants. No other blast protection materials offer this dynamic characteristic. Its interwoven coils are both flexible and resilient. It forms, in effect, a three-dimensional spring that spreads forces to adjacent areas like ripples in a pond. By dynamically absorbing the energy of a blast, it harmlessly diverts energy and debris away from personnel and structural building components.

GuardianCoil Validation Shock Tube Tests – Results Analysis
University of Ottawa, June 2015

Analysis of University of Ottawa Shock Tube Test for window blast (Fig. 1) closely matches results of Finite Element Analysis simulation (Fig. 2), modeling the behavior of GuardianCoil for peak displacement and other critical performance factors. Results applied to predictive modeling and analysis for retrofit building installation (Fig. 3) illustrate the ability to withstand an exterior truck bomb explosion.

Protecting People and Property
GuardianCoil provides a range of highly desirable properties to both security consultants and constructions specification writers. GuardianCoil has the added benefit of being an attractive architectural component. It enhances the atmosphere of interior building spaces, and thus the well-being of its occupants. No longer are the valuable and highly-trained personnel who are being protected subject to fortress-like environments. GuardianCoil can also be used to partition interior spaces, provide interior security and protection in a covert, non-obvious manner. This provides protection from interior blasts in less secure environments, such as airports.

GuardianCoil Validation Shock Tube Tests - University of Ottawa, June 2015

Dynamic Innovation
CPS is bringing dynamic innovation to a market that has not recently seen new blast mitigation technologies. The GuardianCoil material can be described in terms of a trampoline, which flexes to absorb the energy from the athlete, and then rebounds to its original shape and position. In a similar manner, GuardianCoil flexes to absorb blast energy and then returns to its original state. It can do this over and over.

Cost Effective
A retrofit installation of GuardianCoil to protect a glass facade, with or without daylight film application, typically costs less than half that of a full window replacement.
Who is Cascade Protection Systems?
Cascade Protection Systems (CPS) is committed to protecting lives and property from man-made and natural catastrophes through its state-of-the-art GuardianCoil® Dynamic Blast Protection and Debris Mitigation Technologies.

CPS provides solutions for a variety of applications, from safety guards and testing facility blast containment to protection against storm-driven debris and terrorist incidents, in permanent or temporary installations. It is flexible, lightweight, and easily installed. It can be repurposed and re-deployed. It is an investment with an indefinite lifetime and is also 100% recyclable with energy saving benefits.

CPS is a subsidiary of Cascade Coil Drapery Inc., with a heritage in the engineered metal products business dating back to 1939.

Accreditations
- GSA Standard Test Method for Glazing and Window Systems Subject to Dynamic Overpressure Loadings
  - Rating: 3b
- ASTM F1642 Standard Test Method for Glazing and Glazing Systems Subject to Airblast Loadings
  - Low Hazard Level
- ASTM F2912 Standard Specification for Glazing and Glazing Systems Subject to Airblast Loadings
- ISO 16932:2016 Glass in Building - Destructive-Windstorm-Resistant Security Glazing - Test and Classification
  - Rated ISO EXV25
- AAMA 510-06 Voluntary Guide specification for Blast Hazard Mitigation for Fenestration Systems
- UFC 4-010-01 DOD Minimum Antiterrorism Standards for Buildings
- UFGS-08 87 23.13: Whole Building Design Guide

Department of Homeland Security (DHS) SAFETY Act 2017 both designation and certification.