

DIAMOND GRILE SYSTEM

ABSTRACT

A protective grille invention that uses mono core wires, and the protective frame structures to prevent people from accidentally falling out a building or structure, as well as prevent unauthorised entry.

The Diamond Grille System can be either a fixed or movable system, and includes of either a fixed grille frame or a movable (sliding, casement or bi-fold) grille frame. Reference to drawing figure 1 to 8.

Each fixed grille frame consists of 2 vertical frames or 2 horizontal frames, and each movable (sliding, casement or bi-fold) grille frame consists of 2 vertical frames and 2 horizontal frames. Reference to drawing figure 1 to 8.

There are Hooked Ends on both ends of the mono core wires, which are connected to their respective lock nut(s)/screw(s) and metal lock washer(s) onto the fixed grille frame or the movable (sliding, casement or bi-fold) grille frame to stabilise the mono core wire into position.

Due to its Hooked Ends construction on both the end of the mono core wires, this construction act as a redundancy failure prevention system in case the lock nut(s)/screw(s) are loosened due to thermal expansion or vibration, thus preventing people from accidentally falling out a building or structure even if with the lock nut(s)/screw(s) loosened. The Hooked Ends configurations will hook onto the lock nut(s)/screw(s) even if loosened. Thus repairs can be carried out afterward, without risking a fall injury or fatality.

During assembly of the product, the x numbers of the mono core wires are installed across the fixed grille frame or movable (sliding, casement or bi-fold) grille frame, both ends of the x numbers of the mono core wires will have a Hooked End. Each Hooked End of the x numbers of the mono core wires will be clamped with metal lock nut(s)/screw(s) and metal lock washer(s), the metal lock nut(s)/screw(s) and metal lock washer(s) will be secured onto the metal profile.

The mono core wires, due to its small outer diameters, provides a clearer view of the outside environment as compared to traditional metal window grilles.

The mono core wires, unlike the Invisible Grille in the market, do not require any plastic membrane to protect the wires from environmental corrosion, nor to prevent wire splitters from injuring the consumers. The mono core wires have a smooth surface finish and is made

from corrosion-resistant alloy that prevent it from rusting even in severe environment condition.

Figure 1-8 accompanies the abstract.