BUILDING REQUIREMENTS FOR THE INSTALLATION OF INGSTRöM's SINGLE-ENTRY ESCAPE CHUTE

The purpose of this document is to provide some basic information necessary for building safety professionals, owners and management of buildings, first-time buyers when assessing and determining Ingström's Single-Entry Escape Chute suitability for their building exit strategies.

Single-entry escape chute – It is permanently installed at a fixed location for used as "Emergency Exit" for building external evacuation system, the type mounted on the rooftop, balcony or corridor, window type, and other special evacuation opening from the building, which gives occupants access to the chute on that floor. One chute serves one floor.

It is an exterior egress path that supports additional egress systems. It is intended to provide alternate paths of egress in the case of critical compromise of the primary path, and to provide additional paths of egress to alleviate congestion in the primary path - a more efficient evacuation sequence for the entire building. Egress path inside the chute tube protects Users from fire effects.

Chute Construction

Require three separate layers of specialized chute fabrics: Outer layer - Fiberglass, Middle layer - Spuncell elastic, Inner layer – Aramid. Maximum length of chute or height of building is 50m. Weather sensitive, sensitive to strong wind, needs stable platform and more maintenance for outdoor units.

Requires custom makes platform to fit well the installation site that is stable to support people with a total weight of 1000kg regardless of chute length. Depending on the design, the unit has a unique entrance and the full-length chute is folded and stored inside a closed container with a rapid opening device. The container is mounted on a chute platform.

Where to install?

The location of the installation site in which Escape Chute installation is planned shall have a floor space of about 2 square metres and other needed parameters that allow the Escape Chute to be installed and used in a safe manner. The installation site shall allow the chute to have a clear vertical descent route to the landing site with no interferences or obstructions or setbacks such as, power lines, balconies, air-conditioning units, awnings or other obstacles along the vertical egress path and at the landing area. The Escape Chute installation(s) and its use shall not pose a safety hazard to non-users, including emergency response personnel, and to users waiting for their turns to descend.

Where feasible, the chute's vertical descent route should be away from the potential exposure of Users to risks and hazards like smoke and flames. But nonetheless, the Escape Chute tube is constructed to protect Users inside the chute from fire effects during evacuation.

A safe and easy access routes to windows, balconies, corridors, terrace, rooftops and other available provisions such as special evacuation openings from the building are all possible evacuation sites for the installation of Escape Chute.

Access to Escape Chute installation should take into consideration the limitations of people with disabilities, elderly persons and young children - disability to open the door or window or walk up to the entry point of escape chute. The evacuation exits shall contain an access ramp and ladder that allows all Users safe access to the Escape Chute installation, where practical.

Selection for the designated evacuation floor(s), the strategic evacuation site(s) to building evacuation exit(s) where the location of the installation site(s) for the Escape Chute installation(s) should be located is/are relative to the building escape routes and determined by building exit strategies. The evacuation floors shall have a safe access to and egress from the evacuation site that allows persons entering to Escape Chute installation via building evacuation exit during evacuation.

Use of the Escape Chute system for installation at window typically requires that a window or exterior door be opened. It is preferable that the window or door be closed except when it is in use for escape. Windows or other openings shall be modified if needed to allow safe access and entrance from the building to the Escape Chute installation. The width and height of the evacuation exits for access to the Escape Chute installation shall be no less than: 800mm width, and 1,200mm height. When these terms are impossible, an alternative solution shall be provided. The opening doors of the window or exterior door for evacuation exits if needed shall be of sliding door, or of doors that either fully opening outward facing the exterior wall or doors that fully opening inward facing the interior wall.

Where the design of the building does not provide exterior doors or operable windows and a window must be broken to use the device or system, consideration must be given to the probable effect of that action, such as showering the emergency response personnel and equipment below with sharp pieces of glass. In such a situation, to obtain approval it may be appropriate to require tempered safety glass on windows that must be broken to deploy the escape device or access the system. Once the window has been broken out, it is desirable to have a means for closing the open space to minimize stack effect and the potential for falls, which may be accomplished by providing a secondary, operable window.

Where two or more Escape Chutes are installed in a building, at least two evacuation sites shall be remotely located from one another that allows people safe access into the Escape Chute to safe exit from the building, where practical.

The escape chute system shall be installed, inspected, tested, maintained and used in accordance with the manufacturer's instructions.

Evacuation Guidance Signage
Building signage for access to exits shall be marked by an approved, readily visible sign. When an exit or the way to reach an exit is not obvious, exit directional signs of photoluminescent safety markings may be used and should be placed to direct to the exit access. Sign legend for exits to the Escape Chute installations shall read in plainly legible letters: "EMERGENCY EXIT to Escape Chute" and is readily visible from any direction of access. Emergency lights shall illuminate the access area to "EMERGENCY EXIT to Escape Chute" when the building requires emergency lighting.

The landing site on the ground for final exit of the Escape Chute shall be designated a 'clear space' of a minimum 1 square metre for landing area and free from obstruction at all times.

Optional items
The landing area may have 'Cast-In-Situ Rubber Flooring' placed on the ground. Other optional items include Emergency lights; Exit light; Walky-talky; Escape smokes hood.

Evacuation Plan
Escape chute systems should be used in accordance with the building evacuation plan as no single set of requirements can cover all contingencies for proper use. The plan should include deployment by the authorized person to provide supplemental evacuation means or capacity for disabled persons who cannot use the standard means of egress. Staff personnel and the person or persons authorized to direct the deployment of and to operate the escape chute system shall be trained in its operations and procedures for use under what circumstances the chute should be deployed. Special considerations that affect the usability of the escape chute system, such as adverse weather condition. Generally, deployment will be when preferred options no longer exist or, when all other means of egress or escape have been compromised; just as the deploying a lifeboat from a sinking ship.

Since the escape chute system may sit idly for many years and then suddenly need to be used, and given the problematic nature of the probable circumstances surrounding its deployment, the proper use of the escape chute system should be readily apparent to the evacuees and should require minimal training or instruction during fire drill.

Ordering Information:
Please provide information on:

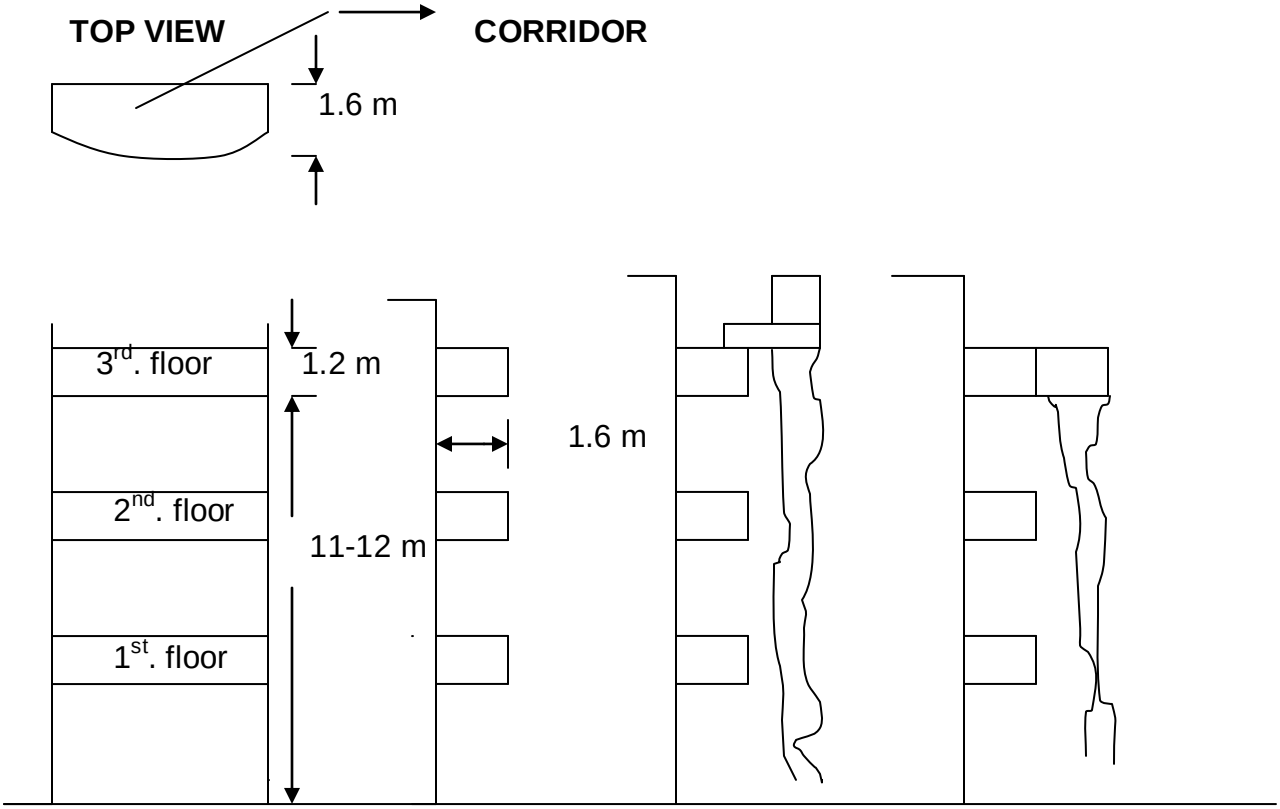
1 Evacuation Site (provide pictures or sketches):
window or rooftop or balcony or corridor or special evacuation openings from the building.

2 Escape Chute Installation Site:
measurement of available space, load capability of floor, materials of floor and wall structure where the installation of Escape Chute will be retrofitted/mounted.

3 Building Evacuation Exit to Escape Chute installation site (provide sketches):
measurements in length x width, thickness of parapet or wall.

4 Distance from desired height of platform at building evacuation exit to the ground at the landing site.

5 Building vertical configuration with setbacks (if exist) around the perimeter and approximate clearance.

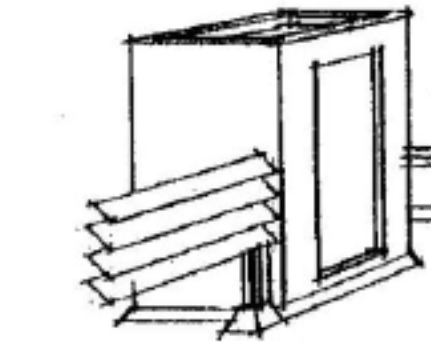


FRONT VIEW SIDE VIEW 1st. platform 2nd. Platform

2 options design of single-entrance platform for the installation at the 3rd floor corridor with 1.6m width floor space:

(1) A box-platform with 3 sides fence that fixed permanently on the external wall of the corridor. The advantage for this option is that it is less costly and that the inside corridor space is still can be used by the occupancy (moving along the corridor freely).
(2) The movable platform (slide in and out) will move across the corridor wall (1.2m H) when in used and will be kept inside the corridor space of 1.6m width floor space when unused. This option is more costly and that the inside corridor space cannot be fully used by the occupancy because this movable platform will be installed inside the corridor space.

FIELD DIMENSIONS
Window Mounting of LIFE CHUTE



(A) DISTANCE FROM INSIDE FACE OF WINDOW SILL TO ANCHOR LOCATION; DOOR FRAME OR OTHER STRUCTURAL ELEMENT. _____ FT.

(B) WIDTH OF WINDOW SILL, _____ IN.

(C) HEIGHT OF SILL ABOVE FLOOR, _____ IN.

(D) DISTANCE FROM SILL TO GROUND, _____ FT.

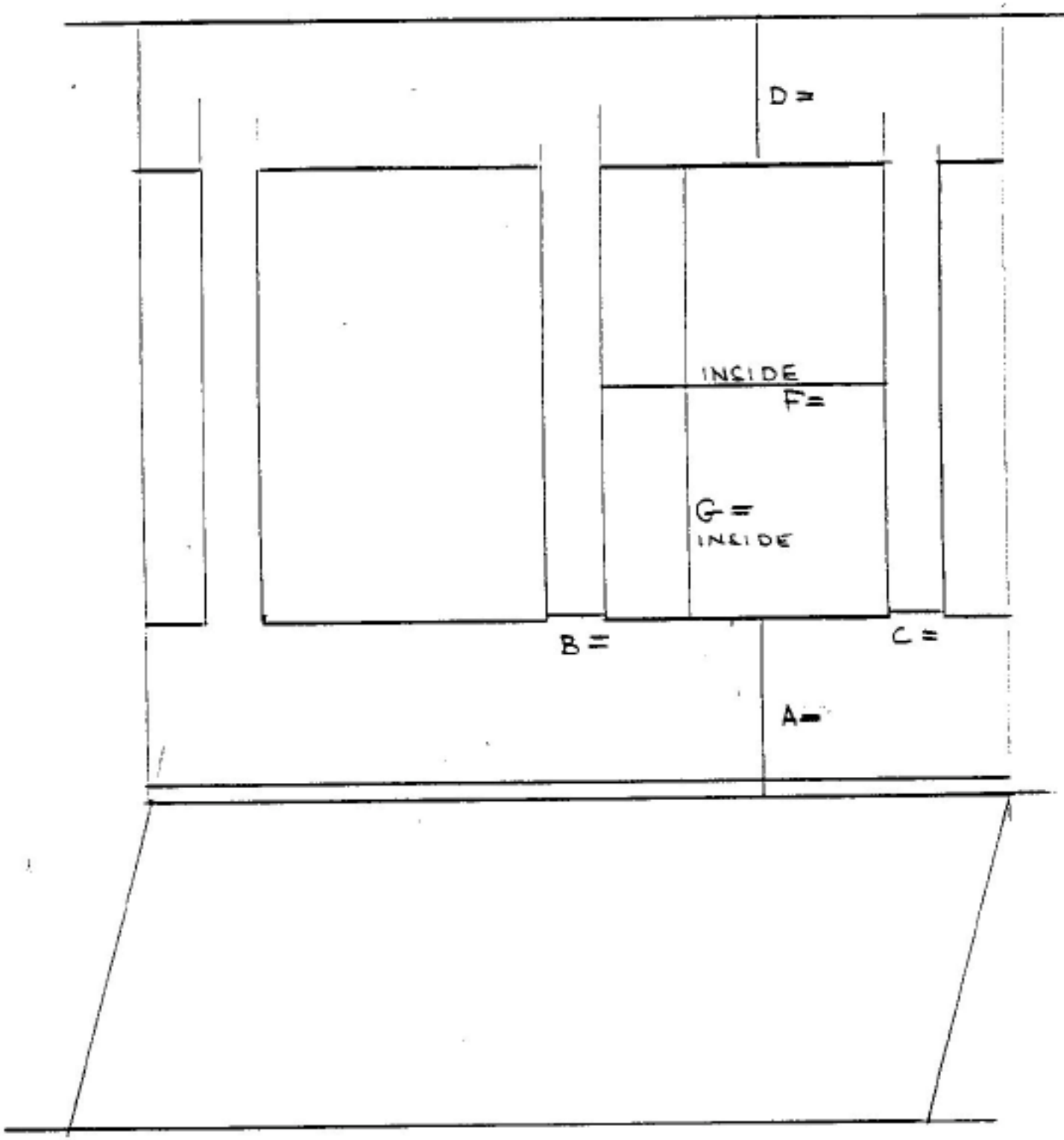
(E) DISTANCE FROM BASE OF BUILDING TO A POINT BEYOND GROUND OBSTACLES. _____ FT.

(F) DISTANCE FROM BASE OF BUILDING TO DISTANT OBSTACLE. _____ FT.

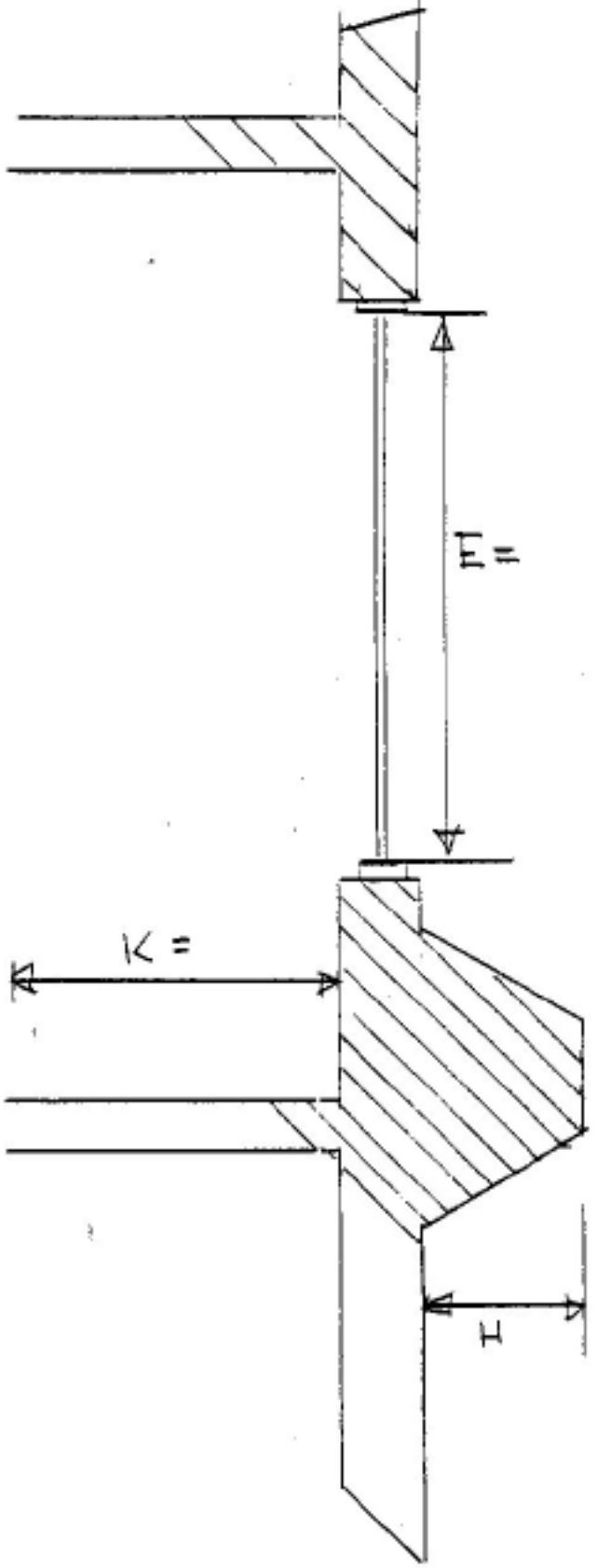
(G) AREA OF LIKELY ANCHORAGE FOR BOTTOM OF NET.

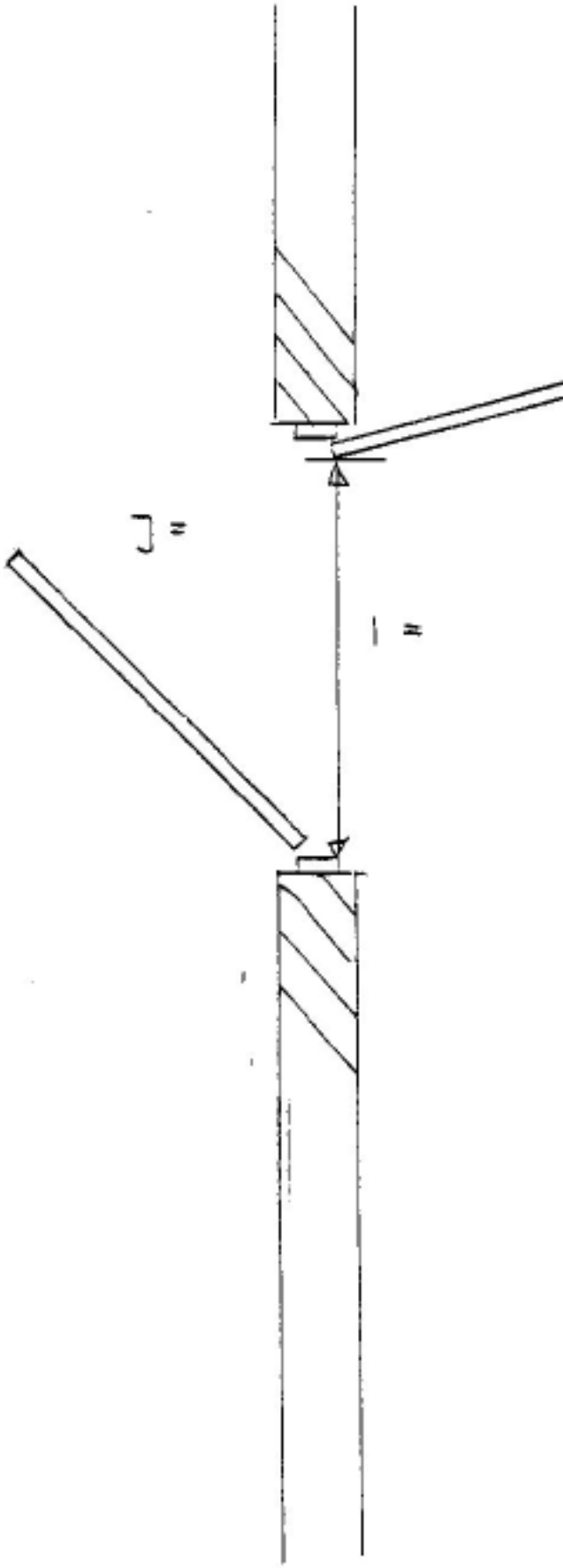
(H) WIDTH OF WINDOW OPENING _____ IN. X (J) HEIGHT OF OPENING _____ I

ESCAPE EQUIPMENT AB
SÄTRAVÄGEN 11
184 52 ÖSTERSKÄR
SWEDEN
PHONE 46-764-641 56
FAX 46-764-690 05



ESCAPE EQUIPMENT AB
SÄTRAVÄGEN 11
184 52 ÖSTERSKÄR
SWEDEN
PHONE 46-764-641 56
FAX 46-764-690 05





ESCAPE EQUIPMENT AB
SATRAVAGEN 11
184 52 ÖSTERSKAR
SWEDEN
PHONE 46-764-641 56
FAX 46-764-690 05

Safety Considerations Review

Currently, there is no industrial standard for the design, construction and installation of escape chutes in meeting specific performance requirements. However, Mobiltex Evacuation Systems has developed its own standards and requirements for the construction and the installation of the chute to meet its minimum requirement. All materials used for the construction of the chute comply with EC standard.

Every Ingström Escape Chute installation is designed to meet stringent requirements for safety, strength and reliability for aiding emergency egress, and has give substantive consideration to User safety, taking into account the emergency situations in which it would be utilized. But nonetheless, buyers and suppliers should also do a hazard analysis and risk assessment of the intent use or the role of the Escape Chute in their overall building evacuation plan that they are considering.

Like in all fire protection equipment, Escape Chute system shall be in good working conditions and ever ready for use virtually throughout its life; periodic maintenance to ensure proper storage of chute and its ready conditions for use at any moment is extremely important.

Fire drills are supposed to prevent the Titanic effect-chaos in the event of a mass evacuation. The use of Escape Chute system should be used in accordance with the building evacuation plan, including users training and fire drill activities. As in all evacuation plans, first responders, building managers and even tenants would need to be trained and drilled in how to use the evacuation chute safely to ensure that the last great barrier to egress is overcome for all. After building occupants are familiar with the use of the Escape Chute, it becomes as effective as any other facilities used for aiding evacuation. With frequent practice in drills, people's fear of entrapment is reduced when they know there is an alternative way out.

The information contained in this document does not purport to address all of the safety concerns, if any, associated with its application/use. It is the responsibility of the buyer/user of the information to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. Special considerations and potential significant hazards to specific Users of Escape Chute or adverse weather conditions that might be encountered that might affect the usability of the Escape Chute system in a safe manner that do not pertain to the design, construction and installation, if any

Warranty and After Sales Service

Product warranty from manufacturer defects of 18 months from shipment and includes replacement of damaged parts on what the factory (Mobiltex Evacuation Systems) supplied in accordance to EC norm.

The warranty period shall be reduced to 18 months from the date of testing & commissioning when Buyer did not take up the yearly maintenance agreement.

The warranty period can be extended for up to ten years by entering a yearly maintenance agreement.

**** If you have questions or need clarification or need more information on this document, email to sales@escapeconsult.com***

IMPORTANT NOTICES AND DISCLAIMERS CONCERNING MOBILTEX EVACUATION SYSTEMS DOCUMENTS

Notice and Disclaimer of Liability Concerning the Use of MOBILTEX EVACUATION SYSTEMS Documents

The recommended practice and guides, of which the document contained herein, are developed by MOBILTEX EVACUATION SYSTEMS. This process brings together varied viewpoints and interests by the owner of the product/system concerning the installations and the use of INGSTROM ESCAPE CHUTE system in proper manner. Anyone using this document should rely on his or her own independent judgment or, as appropriate, seek the advice of a competent professional in determining the exercise of reasonable care in any given circumstances.

The MOBILTEX EVACUATION SYSTEMS disclaims liability for any personal injury, property or other damages of any nature whatsoever, whether special, indirect, consequential or compensatory, directly or indirectly resulting from the publication, use of, or reliance on this document. The MOBILTEX EVACUATION SYSTEMS also makes no guaranty or warranty as to the accuracy or completeness of any information published herein.

In issuing and making this document available, MOBILTEX EVACUATION SYSTEMS has no power, nor does it undertake, to police or enforce compliance with the contents of this document. Any certification or other statement of compliance with the requirements of this document shall not be attributable to the MOBILTEX EVACUATION SYSTEMS and is solely the responsibility of the certifier or maker of the statement.