

Northern Railway

Headquarters Office,
Baroda House,
New Delhi.

No. 10/ W/O/Policy/Building

Date: 29. 07.2015

Chief Engineer's Circular No. 626

Sub: Aluminium glazed sliding windows in multi-storeyed buildings.

Incidences of breakage of glass panes of openable/casement windows due to banging during heavy storm are a common phenomenon. Many times, this causes injury to occupants and other persons. In case of high rise buildings, due to absence of trees at that height, the wind energy cannot be dissipated. Openable/casement windows at such height are vulnerable to wind force and may become unsafe for persons trying to close the windows during high wind speed. Besides being a safety threat, such broken glass panes are bound to increase the maintenance inputs.

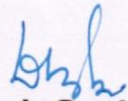
In view of the above, following instructions are issued for all High Rise Buildings (G+4 and above)

- (i) Window should be aluminium sliding type with 3/4 tracks.
- (ii) Inner most sash should be of steel mesh for mosquito proofing. Size should not be more than 1/2 opening of window. Refer Annexure-A.
- (iii) It should be ensured that windows are installed such that water does not penetrate from the outer skin to inner skin of the building envelope.
- (iv) Suitable sill, head and jamb flashing should be provided to stop water wetting the inner skin. Neutral grade Silicon Weather Sealant may be provided between frame and wall/other surface all around to make junctions fully water tight. Refer Annexure-B.
- (v) Necessary provision for rain water disposal shall be done in the bottom guides/frames as directed by the Engineer-in-charge.

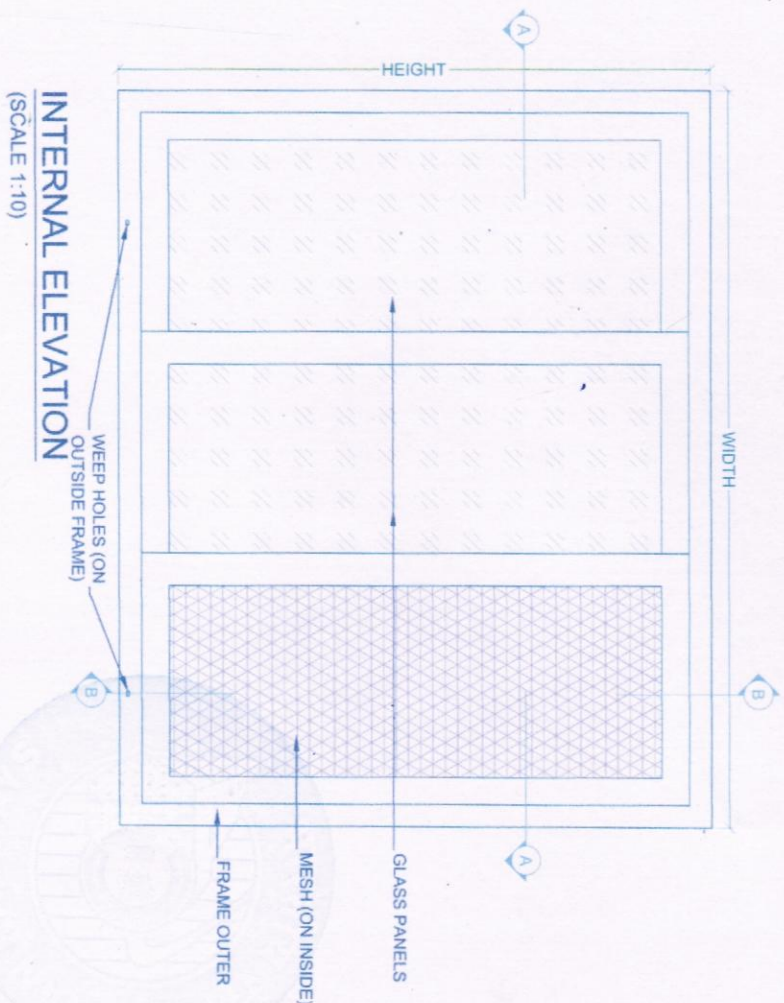
This should be implemented for new buildings and replacement may be planned even for existing buildings from top floor to down through revenue special works where such problems are reported.

This has approval of Pr. Chief Engineer.

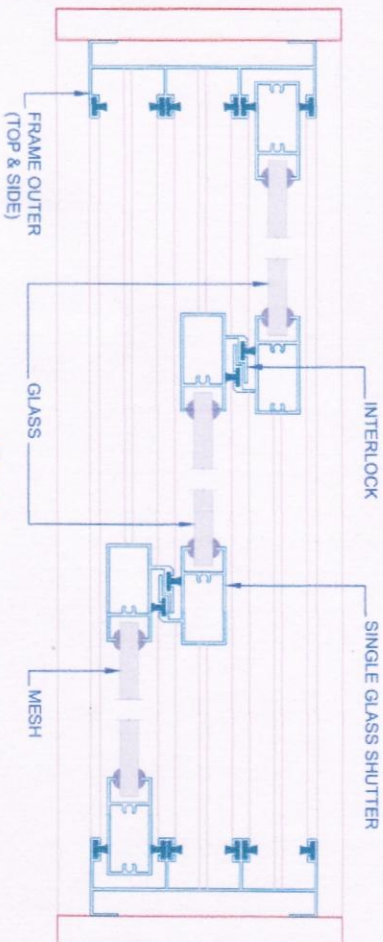
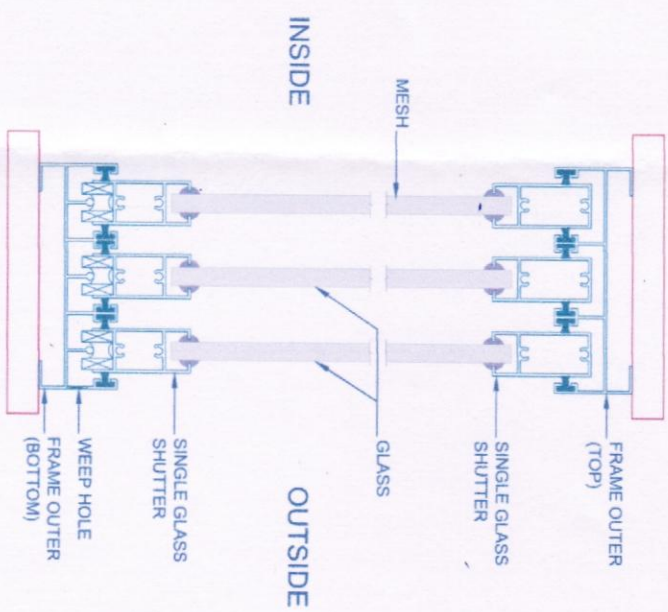
Encl: Annexure- A and B (3 sheets)


(Dhanesh Gupta)
Chief Engineer/P&D

ANNEXURE A (SHEET 1 OF 1) CE CIRCULAR NO. 626



OUTSIDE



WEEP HOLE
(SCALE 2:1)

NORTHERN RAILWAY

**GENERAL ARRANGEMENT
DRAWING FOR ALUMINIUM
WINDOW SLIDING TYPE**

(3 TRACKS WITH STEEL MESH ON INSIDE
SASH)

SECTION A
(SCALE 1:2)

DRAWN BY: (MOHD. SHARIF) 13/7/15
XEN/ P&D: (RAJEEV SAXENA) 20/7/15

SCALE:- 1:2, 1:10

Flashing

General

It is the responsibility of the Executing Agency to ensure that windows are installed in such a way that water does not penetrate from outer skin to the inner skin of the building envelope. The extent of flashing required will depend on local weather conditions. In some instances only sill flashing may be required. In others jamb and head flashing may be required.

Jamb Flashing

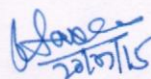
- Required in high wind locations to ensure that water which enters between the window jamb and outer skin is drained to the sill flashing.
- Where jamb flashing overlaps the sill flashing, the overlap should extend the full depth of the sill flashing.

Head Flashing

It is provided to stop water wetting the inner skin by bridging across the window head or any wall penetrations not specifically designed to stop water reaching the inner skin, i.e. exhaust fans and ventilation ducts.

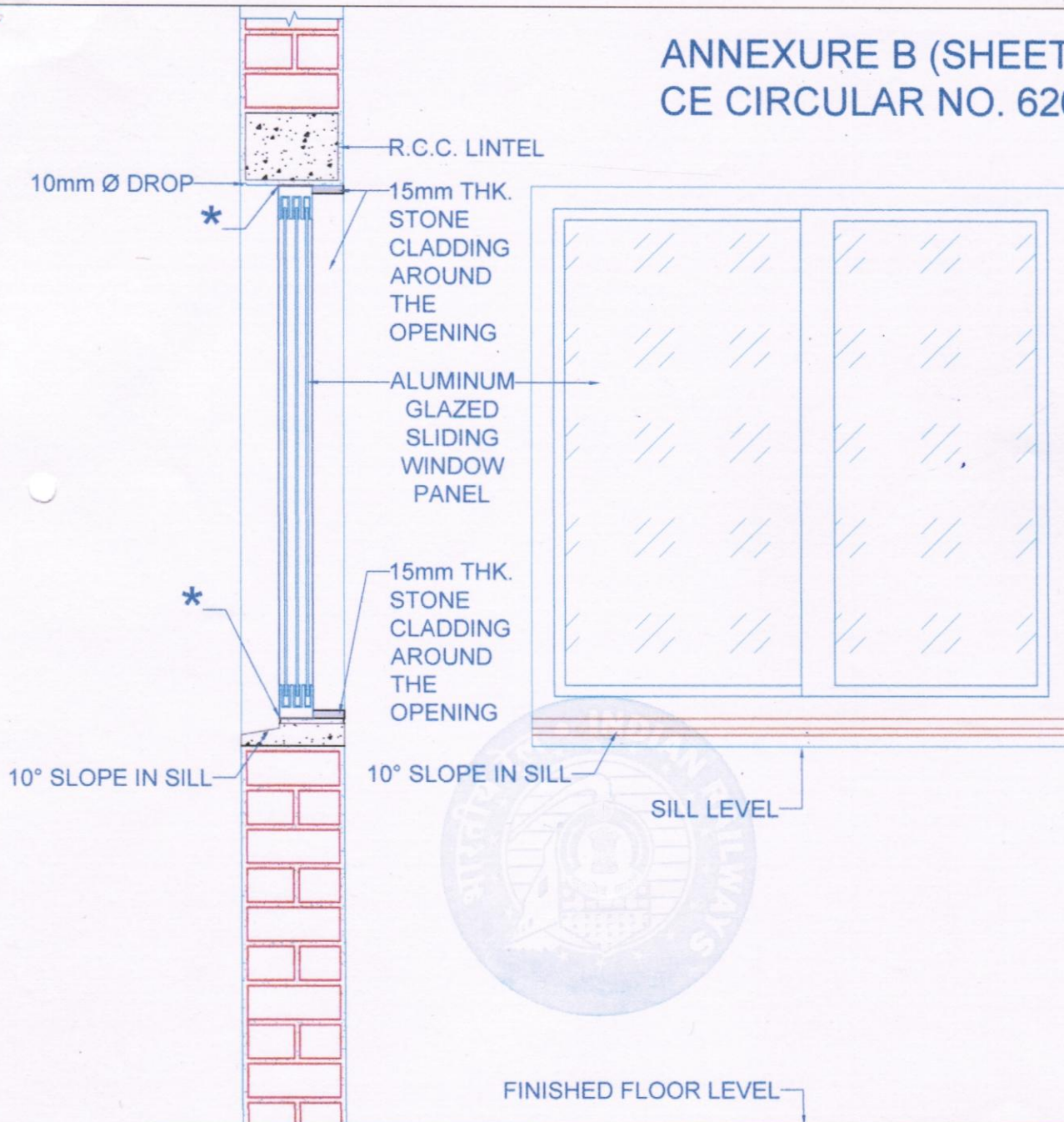
Sill Flashing

- It is provided to stop water entering across underside of the window and wetting the inner skin.
- The window generates run off in down pours and sill flashing stops this water being blown under the window.



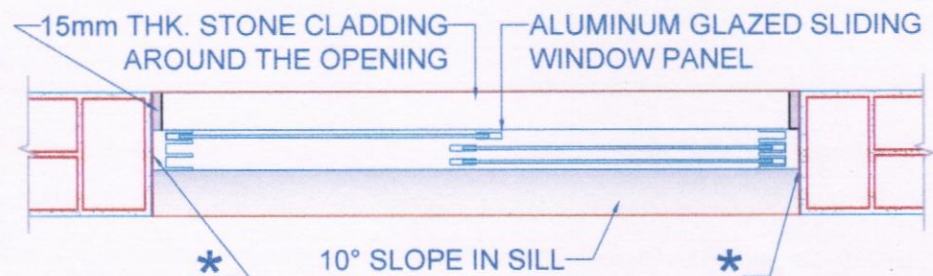
RAJEEV SAXENA
(XEN/ P&D)

ANNEXURE B (SHEET 2 OF 2) CE CIRCULAR NO. 626

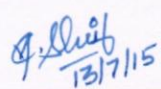
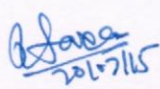


SECTION & ELEVATION

* ALL AROUND GAPS TO BE FILLED WITH MASTIC/ CEMENT PLASTER. OTHER CRACKS/ JOINTS INTERFACE OF ALUMINIUM SECTIONS TO BE SEALED WITH NEUTRAL GRADE SILICON SEALANT.



PLAN

 (MOHD. SHARIF)	 (RAJEEV SAXENA)	NORTHERN RAILWAY INSTALLATION OF ALUMINUM SLIDING WINDOWS
DRAWN BY	XEN/ P&D	

N.R.Y.