



# CCPS Organizes Capacity Building Workshop on “Use of glass in Buildings – Human Safety” at Chandigarh

*New Delhi based Confederation of Construction Products and Services (CCPS) organized Capacity Building Workshop on “Use of glass in Buildings – Human Safety” at Conference Hall, Office of the Engineer-in-Chief, PWD (B&R) Haryana, Nirman Sadan, Chandigarh on 29th June, 2011.*

Keeping in view the spectacular increase in use of glass in all types of buildings due to its acceptability, sustainability, adequacy, satisfactoriness, liking, inherited advantages & merits and properties in the various cities of Haryana like Gurgaon, Panchkula, Faridabad, Sonapat and other cities, Confederation of Construction Products and Services (CCPS) has been approaching the State Govt. officials for spreading awareness about the **Guidelines on Use of Glass in Buildings-Human Safety (developed by CCPS)** to ensure human safety while using glass in buildings. Mr. Mahesh Kumar, Engineer-in-Chief, PWD (B&R) Haryana appreciated the efforts of CCPS and consented for organizing workshop at Nirman Sadan, Chandigarh on 29<sup>th</sup> June 2011.

Architect Deepak Gahlowt, Hony. Convener, CCPS in his presentation informed that now-a-days glass has become a popular and inevitable building material and as per an estimate the glass sale has been increased from 886 MT/day in 2000-01 to 3400 MT/day in 2010-11. Taking cognizance of this trend of increased glass use in buildings all over the country especially in commercial complexes, educational institutes, hotels, hospitals, offices etc and now even in residential houses/flats, which may jeopardize human safety, CCPS has brought out Guidelines through PPP mode adopting consensus method involving CPWD, M/o Urban Development, various PWDs including Haryana, major municipalities, professionals, experts, manufacturers etc to ensure safe use of glass in buildings.

Mr. Deepak Gahlowt informed the participants that the guidelines suggest how to regulate glass use in relation to human safety by either restricting use of glass or specifying use of Safety Glass at critical locations. Five critical locations were explained where chances of injury due to glass breakage were considered high. Consideration for manifestation, fire fighting and smoke exhaust was also highlighted. He hoped that in the present scenario of mass construction activities being undertaken in Haryana cities, following of the recommendations of the Guidelines by inclusion in Building Byelaws and building permissions, incidences of glass related injuries and mishaps could be reduced. Mr. Gahlowt also suggested, keeping in view the ecological conditions of the State, glass use should be rational and logical and due attention for orientation, shading and direction of the building should be given along with the following of ECBC to reduce the energy load.

Mr. Shashi Kant, Adviser, CCPS and former Dy. Adviser, Planning Commission has informed that this issue has been drawing attention of the authorities and is being viewed seriously in the country. Planning Commission has also requested UD Secretaries of all States and UTs to include certain conditions in Building Byelaws and initiate action for ensuring safe use of glass vide letters dated 04.02.2009 and 26.11.2009 and these guidelines have now been mandated by a number of Central and State Govt. departments by issuing necessary Govt. Orders which includes Central PWD; Govt. of Andhra Pradesh; Govt. of Rajasthan; Greater Hyderabad Municipal Corporation; Govt. of Delhi, PWD; Delhi Development Authority; Town Planning Deptt., GOR; Rajasthan Housing Board etc. Copies of all the orders were distributed to the participants along with the Guidelines.

**Order of Haryana State PWD (B&R)**

Recognizing the gravity of problem and as assured by E-in-C, an order has been issued to the officers/engineers of the Haryana Public Works (Buildings & Roads) Department to ensure following up of Guidelines vide Memo No. 5535-47/WI dated 19th August 2011 in its true letter and spirit while planning, designing, executing and approving buildings to ensure safe use of glass.

More than 60 participants along with Mr. V. K. Gupta and Mr. D. K. Soni Chief Engineers from HUDA, Mr. K.K. Singh, Chief Engineer, HPWD and other senior officers from Director General, Town & Country Planning Deptt.; Chief Architect's office; Haryana Housing Board; Haryana PWD and CPWD attended the Workshop. Participants shown keen interest in the deliberations and following suggestions were submitted through feedback forms regarding expeditious implementation of the Guidelines to ensure human safety in the State & NCR.

- i) All the participants recorded their consent for agreeing to the Guidelines
- ii) Majority of the participants i.e. above 90% advocated for inclusion in Building Byelaws and strict enforcement through mandatory provisions/acts, implementation by building plan sanctioning and completion certificate issuing authorities.

iii) More than 50% participants suggested for inclusion of related items in the Schedule of Rates, Specifications, Agreement /Tender documents etc.

iv) Wider publicity, awareness campaign, technical circulars, seminars, publicity through coverage in electronic and print media, educating the professionals & users were suggested.

v) Inclusion in BIS, NBC and curriculum of Technical Institutions, making available of ISI marked glass were also suggested.

Mr. Mahesh Kumar, E-in-C, Haryana PWD reiterated that since the issue is comparatively new and is of utmost importance with regard to the human safety, hence its strict compliance, forming a part of Byelaws, inclusion of safety glass related items in Schedule of Rates and mass awareness is needed.

Media has also shown lot of concern about the human safety while using glass in buildings and News of the Workshop organized by CCPS was widely covered in about 20 papers and channels which includes Hindustan Times, Punjab Kesari, Dainik Bhasker, Dainik Jagran, Chandigarh Tribune, Dainik Tribune, Chandigarh Punjabi Tribune, Ajit Samachar, Sector News, Chandigarh Kesari, Aaj Samaj, Apka Faisla, Divya Himachal, Desh Sewak Punjabi, Razana Spoksmen Punjabi, Chandigarh Dinbhar, Aaj Samaj (02.07. 2011), Day & Night News Channel etc.

CCPS may be contacted at:  
ccps@ccpsindia.com,  
Web: www.ccpsindia.com

**Haryana Public Works (Buildings & Roads) Department.**  
Nirman sadan, Sector- 33-A, Chandigarh

**From:** The Engineer-in-Chief, Haryana PWD B&R Branch, Chandigarh

**To:** All the superintending Engineers Haryana PWD (B&R)

Memo No. 5535-47 /WI/ Dated: 19.08.2011

**Subject:** Guidelines on use of Glass in Buildings: Human Safety

The use of glass in buildings has increased manifolds. The worldwide increase in use of glass has become a matter of concern from human safety point of view. Recognizing the gravity of the problem and uncertainty faced by the Engineers, Architects and users. "Guidelines on Use of Glass in Buildings: Human Safety" has been brought out by Confederation of Construction Products and Services

These guidelines suggest how to regulate glass in relation to human safety by either, restricting use of glass or specifying use of Safety Glass at locations where chances of injury due to glass breakage is high. As per the Guidelines following are the conditions on uses of the glass in buildings:

1. Safety glazing material shall be used where
  - a. any glazing is within 1.5 metre above the floor level of building
  - b. there is danger of falling infill glass materials from overhead glazing and
  - c. there is danger of falling due to change in floor level
  - d. in case of balustrades, stairs and floors.
2. Any type of glass in locations having sill Height  $\geq 0.75$  m or with Residual Protection shall be used as vertical wall.
3. Safety glass in locations having no risk of fall (falling height  $H_f \geq 1.5$  m) and sill height  $H_s < 0.75$  m shall be used as a vertical wall.
4. Safety glass in locations having risk of fall (falling height  $H_f \geq 1.5$  m) and sill Height  $H_s < 0.75$  m shall be used as vertical wall.
5. Laminated Safety glass shall be used in horizontal or sloped glazing and as balustrade, parapet or a railing.
6. Toughened (tempered) or Laminated Safety Glass, subject to meeting the definitions and test standards as outlined in the IS:2553.
7. In case of external laminated glass facades, openable portion shall be left at regular distances as required for fire fighting and smoke exhaust.
8. Clear glass panels capable of being mistaken for an unimpeded path of travel should be marked to make them visible by incorporating manifestation.
9. However, if the smaller dimension of pan is 250 mm or less and its area is 0.50 sqm or less, glass not conforming to safety requirements can also be used.

It is therefore, enjoined upon all engineers of Haryana PW(B&R)Deptt, to ensure that these guidelines are followed in its true letter and spirit while planning, designing, executing and approving buildings to ensure safe use of glass.

Executive Engineer (Bldgs-1)  
For Engineer -in- Chief  
Haryana PWD(B&R), Chandigarh

CC:

1. PS to FCPW for information of FCPW please.
2. PS to EIC for information of EIC please.
3. PA's to all the Chief Engineers for information of Chief Engineers please.