Cyclone-Glazing Project: Meetings with Designers and Façade Consultants in the Philippines

June 04 – 08, 2018

MANILA – CTBUH Research Division attended several meetings with façade consultants and designers in the Philippines for the Cyclone Glazing and Façade Resilience for the Asia-Pacific Region research project. Angela Mejorin met the contributors in order to fill up the Philippine section of the technical publication ‘Strong Wind- and Cyclone-Resistant Façades: Best Practices’.

They discussed about the role of the professional figures of the designer and of the façade consultant operating in the Philippine market. The various parties were informed about the current scope of the project and about the findings of the first year of research activities, presented in the II Issue of the 2018 CTBUH Journal, which was shared with the meeting participants. Furthermore, meetings' big arguments of discussion were the on-site proved effectiveness of the existing certified hurricane-resistant façades in the US and the 2015 National Structural Code of the Philippines (Section 207A.10.3.2 ‘Wind-borne Debris Regions’) which requests to follow the same US ASTM standard procedures for typhoon-prone areas.

ALT Consultat met CTBUH at its Office in Manila. From right to left, back line: M. J. Romero; J. T. S. Khoury; T. Khoury; R. Opamin; A. Mejorin; Y. Kulintharaprasert. From right to left, front line: D. C. Manlapaz; K. M. A. Carlos.

Joe Theodore S. Khoury, President at ALT Cladding, kindly hosted CTBUH and Yuthana Kulintharaprasert, Trosifol, at their Headquarters in North Bonifacio Global City, Metro Manila. Mr. Khoury shared his experience in the Philippine façade requirements and in the local developers' budget requests for these building components. Moreover, some pictures of building failures, due to the occurrence of typhoon events in the past years, were presented and the main causes for these circumstances were listed. The lack of the risk assessment was highlighted for its consequences in the safety precaution for people and for private property in Philippine typhoon-prone areas. Another issue in the Philippines is related with the low power of the Insurance Companies that, in other countries, are strengthening the
safety performances of the building envelopes in return for a lower annual premium of their clients. Usually, the maximum safeguard of the building interior related with these building components’ performance consists in the façade supplier’s extension of warranty.

During the research trip to the Philippines CTBUH met also Benny Matinez, Director at Casas + Architects. This was the occasion for CTBUH to discourse about the design and testing procedure (according to ASTM E1886 and ASTM E1996) for typhoon-resistant façades. The basic differences between a building envelope that could withstand the typhoon and a "standard" one were mentioned and Mr. Kulintharaprasert explained and debated the technical characteristics of different glass interlayer typologies. In fact, the interlayer is a fundamental component for the residual strength of the glazing envelope after it experiences the impact of wind-borne debris during a typhoon event. The interlayer guarantees the resilience of the façade, together with the frame, the fastening system, etc. The benefits that a laminated glass solution could generate to a curtain wall system for its safety performances as well as for better acoustic performances, for a lighter weight of the curtain wall for square meter, and so on were listed. Some of the last Casas + Architects completed projects as the Grand Hyatt Manila Residences, the St. Francis Shangri-la Place Tower 1 and 2 were mentioned for the glazing system design approach. Also during this meeting, several building failures during last-years typhoon events were mentioned; these were other than the ones mentioned in the previous meeting at ALT Cladding.
In the last 20 years the role of the façade consultant in the Philippines have been consequently take more and more importance. The meeting with Adam Lee at Professor Torsten Calvi Corporation deeply focused on the local mandatory requirements in the National Structural Building Code of the Philippines, starting from the 2010 edition, for the façade withstanding of the missile impact test (which simulates the wind-borne debris during a typhoon event) and subsequent positive and negative pressure cycling. Mr. Lee pointed out that this façade requirement could be of an easier understanding if it will be insert in the Building Code or in the new 2018 Code of Practice for Structural Use of Glass, instead that in the Structural Building Code. Mr. Lee kindly shared his experience in the façade consultancy and also his personal activities related with the typhoon topic. When he moved to the Philippines he visited the Philippines Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) stations, where the typhoon events are monitored and recorded.

CTBUH collected another important point of view about the local façade market thanks to Nikolay Kolomiychenko, Director at Lumicon. He discussed about the cost requests of the developers that operates in the Philippine market and about the various economical possibilities available for different same-appearance solutions, but different in terms of structural performances, for the façades. Furthermore, the safety performances of the local curtain walls were analyzed and data about these building components in typhoon events were reported, especially about potential failure occurrence when it comes for a strong typhoon event.

Eduardo V. Fajardo met CTBUH and Trosifol and shared his professional background as an exterior cladding specialist. They discussed about the technical characteristics of cyclone-glazing and about the Miami Dade County Assessment after hurricane events which proved the effectiveness against these disaster events of these façade solutions.

CTBUH is working at the technical publication, entitled ‘Strong Wind- and Cyclone-Resistant Façades: Best Practices’, and aims to collect project information for the ‘Building Case Study’ section from the three companies mentioned in the report. For this purpose a meeting with Edmond Dantes R. Asis, Associate at ARUP, was organized and various projects on which they are working on at the moment were mentioned. The certification process of the façades was highlighted for its not mandatory presentation at the Building Authorities in the Philippines.
Arup, Manila Office. From left to right: A. Mejorin, E. D. R. Asis, Y. Kulintharaprasert.

Lumicon, Manila Office. From left to right: Y. Kulintharaprasert, D. Peteza, A. Mejorin, N. Kolomiychenko.

Attendees:

Kristine Mae A. Carlos  ALT Limited
Joe Theodore S. Khoury  ALT Limited
Theo Khoury  ALT Limited
Desiree Catherine Manlapaz  ALT Limited
Ranel Opamin  ALT Limited
Meldene Joy Romero  ALT Limited
Edmond Dantes R. Asis  ARUP
Carmelo T. Casas  Casas + Architects
Benny Martinez  Casas + Architects
Eduardo V. Fajardo  Century Properties
Maelene Boongaling  Lumicon
Nikolay Kolomiychenko  Lumicon
Dyan Peteza  Lumicon
Adam Lee  Professor Torsten Calvi Corporation
Yuthana Kulintharaprasert  Trosifol