





WORKSHOP

THE INTRODUCTION TO GLASS TEMPERING PROCESS AND **PROPERTIES OF TEMPERED GLASS**

SUMMARY

PERFORMANCE DAYS 2017

JUNE 28 - 30, 2017. TAMPERE, FINLAND

#GPD2017

The workshop is a discussion about the introduction to the glass tempering process, properties of tempered glass, and performance of tempered glass. This 4-hour work shop is divided in four 40 mins sessions. The first session will present the background of tempering and benefit of tempered glass. The second session discusses the theory of calculating stresses in tempered glass during the process by using numerical methods. The third session concentrates more on the glass tempering process. With calculated results presented to show how different process parameters affect the tempering results. The last session shows the common problems associated with quality of the tempered glass and how these problems arise. In this session, I will also discuss the fragmentation of tempered glass.

KEY POINTS

- Present basic idea of tempering process and benefits of tempered glass
- Show how numerical methods can be used to increase the understanding of process
- Present methods to optimize the tempering process for energy consumption and quality
- Tempered glass increases the strength and safety of normal glass by heat treatment
- Quality and fragmentation of tempered glass

TIMETABLE

- 9.00 Seating of participants, introduction of speaker
- 9.10 Introduction to tempered glass, a historical perspective
- 9 50 Short break for questions (tea/coffee)
- 10.00 Theoretical aspect to calculate tempering stresses
- 10.40 Long break for guestions (tea/coffee/snacks)
- 11.10 A discussion of glass tempering process
- 11.50 Short break for questions (tea/coffee)
- 12.00 Quality and fragmentation of tempered glass
- Closing remarks and final questions from participants 12 / 0

Duration: 4 hours



ORGANISER

Antti Aronen, University of Sydney

Dr Antti Aronen is a researcher with 10 years experience in the area of materials science. His main area of interest is in the modelling of glass tempering, particularly in the heat transfer and mechanics of glass. The topic of his PhD thesis was modelling of the glass tempering process, which was completed in 2012. For the last four years he has been involved in the research of the vacuum insulating glazing technology