

# WORKSHOP

## AN INTRODUCTION TO AND ADVANCED INSTRUCTION TO THE VACUUM INSULATED GLAZING

### SUMMARY

#### PART ONE: AN INTRODUCTION TO THE VACUUM INSULATED GLAZING

This is a 4 hr workshop is an introduction to the Vacuum Insulated Glazing (VIG) technology. We will explore the fundamental history, science and engineering of the technology. We will examine the existing knowledge base of insulating windows and the energy use in buildings and conventional IGU applications. The performance of the VIG with respect to the thermal and mechanical properties will be presented, and we will discuss the design optimisation of a product.

#### Bullet point summary

- Potential impact of the use of insulating windows
- Breakdown of the Vacuum Insulated Glazing technology (VIG)
- Discussion and outline of thermal performance
- Discussion and outline of the mechanical strength
- Optimisation of the VIG design

#### COURSE TIMETABLE 14TH OF JUNE 2023 in the MORNING

- 10 mins : Seating of participants, introduction of speaker
- 40 mins : What is building energy use and what are insulated windows
- 10 mins : Short break for questions (tea/coffee)
- 40 mins : The vacuum insulated glazing (VIG) and other technologies
- 30 mins : Long break for questions (tea/coffee/snacks)
- 40 mins : A discussion of the VIG thermal and mechanical performance
- 10 mins : Short break for questions (tea/coffee)
- 40 mins : A discussion of potential applications and future potential
- 15 mins : Closing remarks and final questions from participants

DURATION : 4 Hours

## SUMMARY

### PART TWO: ADVANCED INSTRUCTION TO THE VACUUM INSULATED GLAZING

The Vacuum Insulated Glazing (VIG) technology is of great interest in providing for the future requirements of highly insulating buildings. In this workshop we will discuss advanced topics such as, current and future components, current and future products, the results of thermal and wind load performance, framing issues, production costing, service lifetime, advanced testing relative to standards, and some more.

#### Bullet point summary

- Background to the Vacuum Insulated Glazing (VIG)
- Interactive design optimisation
- Results of external load application
- Standards testing of the VIG
- Service life and durability of the VIG

#### COURSE TIMETABLE 14TH OF JUNE 2023 in the AFTERNOON

- 10 mins : Seating of participants, introduction of speaker
- 40 mins : Where is the Vacuum Insulated Glazing (VIG) today
- 10 mins : Short break for questions (tea/coffee)
- 40 mins : Core issues surrounding the future use of VIG
- 30 mins : Long break for questions (tea/coffee/snacks)
- 40 mins : Interactive Q&A on all VIG topics of interest
- 10 mins : Short break for questions (tea/coffee)
- 40 mins : What is the future for VIG
- 15 mins : Closing remarks and final questions from participants

DURATION : 4 Hours

**AUTHOR****CENK KOCER, UNIVERSITY OF SYDNEY**

Dr Cenk Kocer leads the Vacuum Insulating Glass (VIG) Research Group at the University of Sydney. He has over 30 years of research experience in materials science and vacuum systems. The VIG group is the world leader in VIG research and innovation technology. Dr Kocer works with numerous industry partners, working on design and production innovations. The university lab houses innovative equipment for VIG prototype production and the measurement of the thermal and mechanical performance of the VIG. Dr Kocer is also involved as a technical expert of the VIG with the current ISO, NFRC and ASTM Standards working groups.