

TERMS OF REFERENCE

NAFEMS Composites Working Group

The NAFEMS Composites Working Group (CWG) was formed to create awareness and education for the simulation of composites by gathering independent information and providing independent analysis of composites simulation capabilities and needs.

The expertise of the group is on the analysis of fiber reinforced materials. The focus of this group is primarily the analysis of the post-cured composite. Process modelling is addressed by a joined sub-group led by the Manufacturing Process Simulation Working Group. At this time continuous fiber reinforcements made of carbon, glass and aramid fibers as well as woven fabrics, long and short fibers are included. The matrix material is typically a thermoplastic or thermoset polymer. Metal matrix composites and ceramic matrix composites may be included in the future. The modelling of concrete is not included.

Aims

To provide:

- education
- communication
- promotion of standards
- identification of simulation requirements
- sharing of practices in the simulation of composite materials that will have general benefit to the larger simulation community.

Working Group Bylaws

- 1) Members are listed on minutes as attending, apologies or no communication. The NAFEMS Technical Officer is considered to be a member of the working group.
- 2) Contributions include:
 - a) attending and actively participating in working group meetings,
 - b) sending relevant comments or reports on agenda items to the Chair in good time for the meeting,
 - c) volunteering for and carrying out actions arising from the meetings,
 - d) significantly participating in discussions or other activities on the NAFEMS Composites Google Group
 - e) carrying out reviews of journal papers.
- 3) If a member does not contribute for more than 9 months, they will be warned their membership of the working group may be terminated. This will happen after 12 months of non-contribution at the discretion of the Chair.

- 4) Potential new members should submit a CV to the Chair indicating their knowledge and experience of industrial analysis related to the working group. This will be reviewed by the group and if approved the person will be invited to become a member of the working group.
- 5) At least two thirds of the working group membership shall consist of current NAFEMS members. A check on the consistency of the working group will be made following submission of the NAFEMS annual report.
- 6) At the discretion of the Chair, participation in the working group can be split between up to three people from the same organisation.
- 7) If a member is unable to attend a meeting, they may send a colleague in their place to make their contributions. That person would be recorded as a visitor.
- 8) Voting process.
 - a) Members will be eligible to vote if they have attended a minimum of 50% of working group meetings in the previous calendar year or have contributed to CWG activities (see point 2).
 - b) Quorum: a minimum of 50% of the voting members must have participated in a vote in order for it to be considered valid
 - c) Where a vote is required, it may be carried out during a meeting, via email or using a suitable online tool or a combination.
 - d) Any organisation represented by more than one member on the working group will have a single vote.
 - e) If required, the casting vote will be held by the Chair, or when the position of Chair is being decided, the NAFEMS Technical Officer.
- 9) The position of Chair is open for review every 3 years on the anniversary of the initial appointment. There is no requirement for the role to be rotated.
- 10) Vice-Chair
 - a) The Chair may be assisted by a Vice Chair
 - b) The Vice-Chair serves at the Chair's discretion and by the Chair's invitation.
 - c) Where appointed, the Vice Chair will support the Chair as required, including chairing meetings when necessary, participating in group tasks and taking a share in the responsibility for helping the group to achieve its objectives. The Vice Chair is expected to attend the majority of group meetings and to allocate adequate time for preparation of chairing a meeting or leading a group discussion/task.
- 11) The working group should aim to meet a minimum of four times per year
- 12) Meeting Minutes
 - a) Minutes will be circulated within two weeks of each working group meeting.
 - b) Minutes can be taken by a group member nominated by the Chair or by a NAFEMS representative.
 - c) Alternatively, agenda slides used to conduct the meeting may serve as meeting minutes. The slides will be augmented with notes to reflect the discussion and action items.