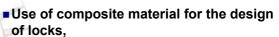


1- IDENTIFICATION OF THE CHALLENGES FOR TOMORROW

- The seismic effect, which is currently investigated by PIANC WG151,
- Ship entrance/maneuvering and ship behavior in locks, which is currently investigated by PIANC WG155.
- Ship impact on lock gates, which is currently investigated by PIANC WG151,
- Reliable design and operation of miter gates, which will be investigated by a new PIANC WG 154,

PIANC Setting the course

1- IDENTIFICATION OF THE CHALLENGES FOR TOMORROW



- Design of monolith lock (versus a structure with joints),
- High rise navigation locks (above 40 m),
- Water management (lack of or too much),
- Salt water intrusion,

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1- IDENTIFICATION OF THE CHALLENGES **FOR TOMORROW**

- Life cycle cost including maintenance,
- Durability of structures,
- Maintainability of equipment and structures,
- Environmental and social aspects,
- Stakeholders' management,
- ■Etc.

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2- CHALLENGES FOR LOCK GATES



- Reliability under all conditions. Sometimes engineers complicate their systems too much, increasing in fact the probability of failures.
- Service life (durability and maintainability) of gate components like tracks, wheels, hinges, seals, buffers and heel posts (mitre gates); and not the main structures that usually serve long enough.

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2- CHALLENGES FOR LOCK GATES



- Maintainability in the sense of: low, easy, safe, healthy and environmentfriendly maintenance.
- Vessel-friendly service. How to improve the comfort and safety of the vessels and their passengers (crews)?
- Etc.

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