



TECHNICAL CIRCULAR No. 365 of 11th September 2016

To:	All Surveyors/Auditors
Applicable to flag:	All Flags
Subject:	<b>Human Element</b>
Reference:	<b>CONARINA Class</b>

## **Human Element**

The following items apply to human element notation:

-ILO MLC-MLC-ACCOM – vessels comply with the objective ILO MLC 2006 requirements

-Permanent Means of Access

-Tankers and bulk carriers (MSC 151 & 158 compliant)

-PMA satisfies minimum requirements

-PMA+ incorporates safety and ergonomic design principles

Passenger Comfort (Ships and Yachts)

-Passenger vessels

-Yachts

Habitability

- Crew Accommodations
  - Access/egress and crew cabins
  - Sanitary spaces and offices
  - Food services areas
  - Recreational facilities
  - Laundry and medical areas
- Ambient environment
  - Human whole-body vibration
  - Noise
  - Indoor climate
  - Lighting

## **Ergonomics**

### **Customer Service Center**

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Ergonomics addresses structural aspects of four vessel areas:

1. Topside interface design

- Generally addresses vessel areas from the main deck (weather deck) upward
- Involves structures and accesses:
  - Ladders and Landings
  - Climber safety devices
  - Platforms
  - Stairs
  - Walkways

2. Hull interface design

- Areas within the hull, below the main deck
- Similar coverage as Topsides, tailored for cargo and machinery access
- Ladders and walkways
- Hatches, Passages
- Lifting devices
- Doors and scuttles
- Etc...

3. Maintenance access and design

- Addresses maintenance accesses and workspace, generally on or below the main deck
- Coverage includes:
  - Task analysis
  - Access openings, maintenance platforms
  - Reach and access envelopes
  - Space for tools and parts storage
  - Provisions for storage
  - Lifting and moving devices
  - Safety devices

4. Valve locations, access, and operation

-Addresses design and accessibility of manual valves and motor operated (for maintenance)

Topics include:

- Valve criticality, location, access, reach envelopes
- Category 1 - Valves critical for safety or operations or are also used frequently for routine maintenance.
- Mounting heights and orientations
- Mode(s) of operation, biomechanics of operation
- Force requirements, Support devices (extenders, bars)

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REFERENCES:

- **CONARINA Class**

ATTACHMENTS: No.

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