

Cargo and hull damage while at anchor in heavy weather

A small general cargo vessel loaded steel cargo at several different ports. At the first port the vessel loaded steel plates and at the second port the vessel loaded drums of submarine cables using its own crane. The charterer had a port captain present during the loading operation. Stevedores secured the cargo. At the third port the vessel loaded drums of another type of cable. During the loading the chief officer inspected the stowage and cargo lashings. He did not find any deficiencies and was happy with the stowage.

In the afternoon the vessel sailed to another port to load some more cargo. The vessel had to anchor to wait for its berth. The port anchor was dropped with 6 shackles.

In the evening the weather deteriorated with gusting winds at Beaufort 7. This caused the vessel to roll and pitch heavily as the swell and waves were at least 4 meters high. The anchor started to drag so the master ordered the anchor to be raised. The vessel then proceeded back to its original position and dropped anchor once again. However as the weather had not improved the vessel started to pitch and roll heavily again and the anchor started to drag.

The master decided that the vessel should leave the anchorage to find shelter in the outer harbor. Once at the outer harbor the vessel drifted and kept its position by using engine commands.

The following morning the master received a message from the agent which informed him that the pilot would board the vessel after lunch. The master proceeded to the inner anchorage once again and dropped the port anchor with 7 shackles. However at lunch time the weather worsened again and the vessel started to roll and pitch heavily.



The chief officer decided that he should inspect the cargo. While walking on deck he heard a loud noise from cargo hold number 1. He found that some of the lashings and chains had become loose and the wooden wedges and dunnage were broken. Some of the cargo drums had hit the cargo bulkhead and dented it.

About an hour later the pilot embarked, the anchor was raised and the vessel was finally berthed.

While alongside a surveyor boarded and inspected the cargo. He found it to be stowed according to the cargo manual but that the wooden dunnages and wedges were too soft and weak for this type of cargo.

All portable lashing materials were provided by the charterer. Most of the lashings were in good condition but some of the lashings were defective and had not been able to withstand the pitching and rolling. Otherwise, the lashings had been maintained as per the PMS (Planned Maintenance System). However there were no certificates of the lashings onboard.

The master issued a sea protest because of the heavy weather.

Discussion

Go to the "File" menu and select "Save as..." to save the pdf-file on your computer.

You can place the marker below each question to write the answer directly into the file.



When discussing this case please consider that the actions taken at the time made sense for all involved. Do not only judge, but also ask why you think these actions were taken and could this happen on your vessel?

1. What were the immediate causes of this accident?

2. Is there a risk that this kind of accident could happen on our vessel?

3. How could this accident have been prevented?

4. How many hours ahead do we monitor the weather?

5. What are the environmental limits for our anchor equipment?

6. Do all concerned crew members know about the limitations?

7. At what stage do we raise the anchor and leave the anchorage?

8. Do we have certificates for our cargo-securing equipment onboard?

9. If not, why is that?

10. Is our PMS sufficient for the maintenance of our cargo equipment?

11. Can anything be added to the PMS?

12. What sections of our SMS would have been breached if any?

13. Does our SMS address these risks?

14. How could we improve our SMS to address these issues?

15. What do you think was the root cause of this accident?

16. Is there any kind of training that we should do that addresses these issues?

Issues to be considered

In our anchor awareness campaign we highlight some of the issues which caused the cargo and hull damage in this case. Ensure you and your crew understand the limitations.

Class Rules based on IACS UR A1 – Anchoring equipment:

- Designed for temporary mooring in a harbour or sheltered area
- Current velocity: max 2.5 m/s
- Wind velocity: max 25 m/s
- No waves

Equivalent condition including wave loads:

- Current velocity: max 1.5 m/sec
- Wind velocity: max 11 m/sec
- Significant wave height max 2 m

Length of paid out chain

- Scope of cable: 6-10 shackles
- Good holding ground

Keep certificates onboard

Monitor weather

Don't anchor in bad weather