

# Maritime New Zealand Guidelines

## SAFETY BULLETIN ISSUE 12 – 2007

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### LIFTING SLINGS, LOOSE GEAR AND DUNNAGE

This safety bulletin is for:

- New Zealand shipping companies
- New Zealand shipping agents
- New Zealand port companies and stevedoring companies
- New Zealand harbourmasters
- Foreign flagged vessels visiting New Zealand ports
- IACS Classification Societies based in NZ.

#### Purpose

This safety bulletin describes and highlights the cause of two accidents and recommends how to prevent the re-occurrence of similar accidents.

An accident on board a cargo vessel discharging flat steel bars in Wellington Harbour in September 2006 injured one of two stevedores in the cargo hold. The accident could have resulted in two fatalities. A similar accident happened on a vessel carrying the same cargo in January 2007, however, the stevedores in the hold were not injured.

#### Loose gear and dunnage

Synthetic fibre lifting slings are lifting appliances that fall under the category of “loose gear”. They are required to be proof load tested and certified. Maritime Rule Part 49 sets out the requirements applicable to New Zealand flagged vessels and to foreign flagged vessels working cargo in New Zealand.

The requirements also state that all loose gear must be inspected by a “responsible person” before use and any unsatisfactory inspections recorded in the ship’s register of equipment. The inspection procedures and the appropriate use of the register of equipment are topics that must be detailed in the ship’s safety management system (as required by the International Safety Management (ISM) Code). The discard criteria to be used in the inspection of loose gear should be clearly stated within these procedures.

“Dunnage” refers to different materials used to protect and secure general cargo. Dunnage includes fabric between layers of cargo, watertight sheeting or pieces of dry timber used to physically space cargo to protect both the cargo and any loose gear arranged for loading and lifting.

**Warning :** The use of pre-slung cargoes without appropriate dunnage can result in the cargo damaging the lifting slings. Sling damage may occur in this manner at the loading port before loading, during loading, while at sea or when the cargo is landed at its destination.

#### Lifting sling defects

Discard criteria for lifting slings are available in the European Standard *EN 1492-1: 2000 Textile slings. Safety. Flat woven webbing slings made of man-made fibres, for general purpose use.*

This standard provides the following examples of sling damage:

- General surface chafe beyond wear limits
- Cuts - cross or longitudinal
- Cuts or chafe damage to selvages<sup>1</sup>
- Damaged or deformed fittings
- Substantial surface chafe or local abrasion
- Cuts to stitching or eyes
- Evidence of chemical attack
- Heat or friction damage.

<sup>1</sup> “selvedge” means the prepared edge of the fabric sling.

When these defects are noted the responsible person should remove the sling from service until it can be assessed by a competent person.

## Pre-slung cargo

In order to improve loading and unloading times certain cargoes are “pre-slung” using synthetic fibre slings. If this is the chosen method of loading and unloading a vessel the following recommendations should be applied:

*ILO Occupational Safety and Health (Dock Work) Recommendation R160;*

17. *Suitable and adequate dunnage should be used if necessary to protect slings of pre-slung cargoes.*
18. *Slings which have not been approved or inspected should not under any circumstances be used for pre-slipping.*

*NZ Code of Practice for Health and Safety in Port Operations:*

- 4.1.8 *In the case of pre-slung cargoes, the slings need to be inspected at regular intervals. An inspection means a visual inspection by a responsible person for the purposes of determining whether the gear or sling is safe for continued use.*
- 4.3.1 *A register of all lifting machines and appliances and items of loose gear needs to be kept by the owner (or ship’s master) specifying the safe working load and the dates and results of the tests, thorough examinations and inspections referred to in this section.*

## Conclusions

- ALL loose gear, including the slings used for pre-slung cargoes must be proof load tested and certified.
- ALL loose gear used on board the ship must be covered under that vessel’s safety management system for inspection and be duly recorded in the ship’s register of equipment.
- Appropriate discard criteria should be applied and detailed within the procedures for the inspection of lifting slings.
- The appropriate use of dunnage is essential in preventing damage to the synthetic fibre slings used on pre-slung cargoes.

## Recommendations

It is recommended that :

- No cargo should be pre-slung unless the slings used can be verified under the ship’s safety management system as being proof load tested, certified, inspected before use and recorded in the ship’s register of equipment.
- No cargo which has the ability to mechanically damage a lifting sling should be pre-slung without adequate dunnage arranged specifically for the protection of the cargo and sling during loading, shipping and off loading.
- All inspections of slings should be supported by procedures which include supportive discard criteria to assist the responsible person in assessing the condition of the sling.
- All pre-slung cargo lifting slings should be inspected by a responsible person prior to off loading.

### Further Information

For further information, please contact:  
 Nautical Analyst, Maritime New Zealand  
 Phone: (04) 473 0111  
 Fax: (04) 494 8901  
 Email: [nautical.analyst@maritimenz.govt.nz](mailto:nautical.analyst@maritimenz.govt.nz)