



# ***Care and Inspection of Barry Dyneema® and/or Spectra® Rope Products*** *(longlines, barrel slings and cargo nets)*

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Note:

Dyneema® is a Toyobo Ltd, Japan trademark

Spectra® is a Honeywell Performance Fibers trademark

## Table of content

Congratulations	4
Warning	5
Inspection Criteria	6
Rope Conditions	7
Inspection Criteria Details	10
Controlling Contingent Risks	14
Hardware Inspections	17

## BARRY Longlines, Barrel Slings and Cargo Nets

### **Congratulations on your purchase of a Barry Quality Safety Product!**

Our philosophy at **Barry** is to offer only the best quality in products designed and built to surpass your expectations. We are hopeful and confident that you will be completely satisfied with this product. The entire team wishes to thank you for choosing **Barry** and invites you to send in your comments to help us to continue improving our products and services.

We wish you many years of successful external load operations through the proper use and inspection of our **Aeronautical Products.**



## 1. Warning

**Improper care and use of your Barry longlines, barrel slings or cargo nets can result in serious injury or death. Never use these products for any other than their intended purpose.**

**Note :** This document must be used by persons who are competent\* in the inspection of 12-strand Dyneema® and/or Spectra® ropes.

***Inspect your rope regularly:*** It is important to inspect your rope before and after each use. This inspection must be done at all times, and also applies to new rope prior to it being put in service. The rope should be thoroughly inspected visually and manually (with bare hands) over the entire length of the rope. It is the USER 'S RESPONSIBILITY to know the history of his/her rope and to make the decision as to when the rope should be retired. The manufacturer cannot guarantee the specifications of used rope.

\* Competent person: (OSHA) One who is capable of identifying existing and predictable hazards in the surroundings or working conditions that are hazardous or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

## 2. Inspection Criteria

This document must be used by persons who are competent in the inspection of 12-strand Dyneema<sup>®</sup> and/or Spectra<sup>®</sup> ropes in accordance with the Barry recommendations found in the user Guidelines provided with each product.

Rope inspection should be performed in a clean and well-lit place. The visual and physical inspection should be done on the entire length and surface of each rope that is to be inspected.

During daily inspections, the inspector should have all the significant information pertaining to the rope he/she is to be inspecting, such as the manufacturer's product recommendations and a sample of the rope to be inspected that has yet to be used.

The following list is not exhaustive and does not exclude the possibility of other types of rope degradation and/or manufacturing defects.

### 3. Rope Conditions



#### **NEW ROPE AND ROPE HISTORY**

A sample of unused rope is required at all times for comparison to other ropes in use, along with the rope's inspection record and history.



#### **EXCESSIVE ABRASION**

If 25% or more of the fibers are damaged, withdraw the rope from service and determine the cause.

### 3. Rope Conditions



#### **CUT STRANDS**

Rope shows two adjacent cut strands. This rope should either be retired or the cut section should be removed and the remaining rope re-spliced. (If a 12-strand rope has two or more adjacent cut strands, the rope should be discarded.)



#### **MELTING OR GLAZING**

Rope showing melting or glazing caused by excessive heat. This area will be extremely stiff. Unlike fiber compression, the melted area cannot be mitigated by flexing the rope. The melted area should be cut out and re-spliced or the rope should be retired from service.

### 3. Rope Conditions



#### **DISCOLORATION**

A change in the color of the fibers may be caused by exposure to chemicals. Determine the source and if the rope has been in contact with damaging chemicals, destroy the rope.



#### **COMPRESSIONS**

Rope exhibits fiber-set due to compression. Visible in the area where the rope is loaded, it often has a slight sheen on the contact area. Do not confuse with melting or glazing. This condition is often corrected by flexing the rope.

## 4. Inspection Criteria Details

**Strand damage:** Take special care to protect your longlines, barrel slings and cargo nets from abrasion. Rope strand damage is the most common cause of early rope retirement. This damage occurs most often when your rope, when under tension, comes into contact with rough or sharp edges, the inside edges of shackles, bollards, or any other potential hazard that might be found in the surrounding environment. Using chafe guards will help minimize this problem. Remember, a rope under tension is more susceptible to damage than one that is not.

**Accidental dynamic loading:** Your ropes are not designed to absorb the energy of an accidental dynamic loading. Care must be taken to avoid this. If an accidental dynamic loading does occur, **retire your rope!!**

**Avoid stepping or passing over your rope:** Besides the possibility of cutting the rope, stepping or passing over a rope will grind dirt into the strands and increase the possibility of internal abrasion which may cut filaments and lead to rope failure.

## 4. Inspection Criteria Details

**Chemicals:** Protect your rope from exposure to harsh chemicals. Do not allow your rope to come in contact with any compounds containing acids or alkalines, oxidizing agents or bleaching compounds. Be especially carefully to avoid contact with battery acid and acid fumes.

**Keep your rope clean:** Dirt can shorten the life of your rope by increasing internal and external abrasion. Wash your rope occasionally in cold water with small amounts of mild soap only. Make sure to rinse thoroughly. DO NOT USE BLEACH OR BLEACH SUBSTITUTES. Your rope should be air-dried away from direct sunlight - DO NOT DRY THE ROPE IN A DRYER.

## 4. Inspection Criteria Details

**When to retire your rope:** The following is a list of general guidelines that can assist you in deciding when to retire a rope.

- **Abrasion:** if rope strands are reduced by 25% or more through abrasion.
- **Fiber strands cut:** rope displaying two or more adjacent cut strands.
- **Shock loading:** rope that has been subjected to severe shock loading.
- **Overloading:** rope that has been subjected to the kind of overload for which it was not designed, such as towing or lifting heavy objects beyond the working load limits.
- **Chemical contamination:** unless the chemical is specifically known to be harmless, it should be considered a contaminant.
- **Texture inconsistency:** soft, mushy places or hard spots (localized or over an extended area).
- **Age:** the rope is simply “worn out” from use.
- **Diameter inconsistency:** a visible change in diameter: localized diameter reduction, flat area, lumps and bumps in rope.

## 4. Inspection Criteria Details

- **Loss of confidence:** the rope was used by persons who you suspect may not have taken proper care of it.

Although there is no conclusive evidence from manufacturers, we recommend that a rope be taken out of service within five years of the manufacturing date.

Seek proper instruction in the correct techniques and use of all ropes and equipment. A novice's lack of experience is often the reason ropes are inadvertently exposed to situations that cause premature rope damage.

**A rope is not valuable as human life: if for any reason you do not feel comfortable using your rope, retire it immediately.**

## 5. Controlling Contingent Risks

There are two main categories of contingent risks.

The first category includes the risks that crew members who handle the Barry Dyneema<sup>®</sup> and/or Spectra<sup>®</sup> ropes products (longlines, barrel slings or cargo nets) face directly. These individuals are required to observe the prevailing conditions, especially changes in how rope is used. The person responsible for these products should be aware of all information regarding the safe use of rope.

When the individual responsible for rope safety leaves the site, work should be immediately stopped, unless he or she has passed on key instructions concerning proper use of the rope.

Before the last person responsible for rope safety leaves the job site, work should be discontinued, and he or she should:

- Store the rope (longlines, barrel slings, cargo nets)
- Remove the load from the rope
- Inform the supervisor of any hazards
- Take all the necessary precautions related to the specific job.

## 5. Controlling Contingent Risks

The second category of contingent risks encompasses all risks that anyone not directly involved in the use of Dyneema<sup>®</sup> and/or Spectra<sup>®</sup> rope faces. It is virtually impossible for those responsible for the use of rope to be continually on the look-out for such dangers. To minimize the risk of accidents they can nevertheless do the following:

- Obtain all information regarding the use of rope, especially with regard to rope limitations
- Make sure that rope installations are adequate
- Establish safe working loads
- Post instructions on the proper use of rope
- Keep informed of all activities which may exceed a rope's limitations (e.g. high temperature, exposure to chemicals, shock loading, overloading)
- Inspect all ropes periodically and systematically.

## 5. Controlling Contingent Risks

### Critical Use Conditions:

The user should always review the design factors and frequency of inspections of Barry Dyneema<sup>®</sup> and/or Spectra<sup>®</sup> rope products if:

- Loads are not accurately known
- Operators are poorly trained
- Operating procedures are not well defined
- Inspections are infrequent
- Abrasions, cuts and dirt are observed on the rope
- There is a chance of shock loads or extreme dynamic loadings
- It is used at high temperatures
- There are chemicals nearby
- It has been in service indefinitely
- It is continually under tension
- It may be subject to sharp bends or wear as with pulleys
- If knots are used strength is reduced by 50%
- It has a manufacturing defect.

If one or more of these conditions are present, it is preferable to reduce the working load as per the manufacturer's instructions. Serious accidents can thus be prevented.

## 6. Hardware Inspections

All hardware components used in conjunction with longline, barrel sling and cargo net products should be inspected. All hardware (thimbles, hooks, rings) should not show any damage or sharp edges, any kind of permanent deformation or any corrosion.

For any additional questions or comments please contact our customer service department  
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