



## Section 5.3 Environmental Considerations

- 5.3.1 Slings should be stored in a cool, dry and dark place, and should not be exposed to sunlight, to prevent mechanical or chemical damage when not in use.
- 5.3.2 Chemically active environments can effect the strength of synthetic web sling in varying degrees ranging from none to total degradation. The sling manufacturer should be consulted before sling are used in chemically active environments.
- a. **ACIDS**
1. Nylon is subject to degradation in acids, ranging from none to total degradation.
  2. Polyester is resistant to many acids, but is subject to degradation, ranging from none to moderate in some acids.
  3. Each application shall be evaluated, taking into consideration the following:
    - i. Type of Acid
    - ii. Exposure conditions
    - iii. Concentration
    - iv. Temperature
- b. **ALKALIS**
1. Polyester is subject to degradation in alkalis, ranging from none to total degradation.
  2. Nylon is resistant to many alkalis, but is subject to degradation ranging from none to moderate in some alkalis.
  3. Each application shall be evaluated, taking into consideration the following:
    - i. Type of Alkali
    - ii. Exposure conditions
    - iii. Concentration
    - iv. Temperature
- 5.3.3 Nylon and polyester slings shall not be used at temperatures in excess of 180°F (85°C), however, they may be used in temperatures as low as -40°F (-40°C).
- 5.3.4 Slings incorporating aluminum fittings shall not be used where fumes, vapors, sprays, mists or liquids of alkalis and/or acids are present.
- 5.3.5 Environments in which synthetic webbing slings are continuously exposed to ultra-violet light can affect the strength of synthetic webbing slings in varying degrees ranging from slight to total degradation.
- a. Factors which affect the degree of strength loss are:
1. Length of time of continuous exposure
  2. Sling construction and design
  3. Other environmental factors such as weather conditions and geographic location.
- b. Suggested procedures to minimize the effects of ultra-violet light.
1. Store slings in a cool, dry and dark place when not being used for prolonged periods of time
  2. Inspect slings weekly or more often depending on frequency of sling use.
- c. Visual indications of ultra-violet degradation are:
1. Bleaching out of sling color
  2. Increased stiffness of sling material
  3. Surface abrasion in areas not normally in contact with the load.
- d. Proof-Testing — Slings used in environments where they are subject to continuous exposure to ultra-violet light should be proof tested to two times rated capacity annually, or more frequently depending on severity of exposure.