Appendix D

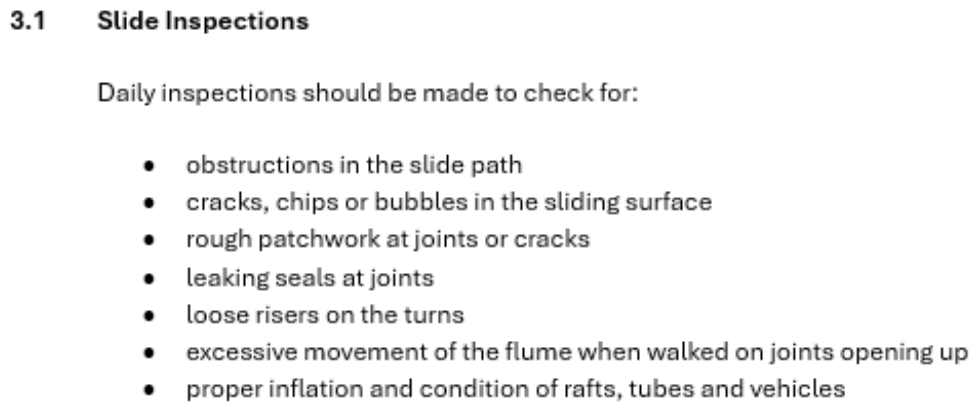
Waterslide Manual Comparison

TECHNICAL SAFETY BC

In order to assess the documentation available to workers at the Waterpark against industry standards, a copy of a modern slide manual from a prominent manufacturer was obtained. Sections around maintenance, repair, and daily inspection were reviewed.

Daily Slide Inspections

It was found that the slide inspection procedure for the Waterpark had very similar guidance to the slide inspection checklists that are included in modern manufacturer's manuals. Excerpts from the manuals are included below for comparison:

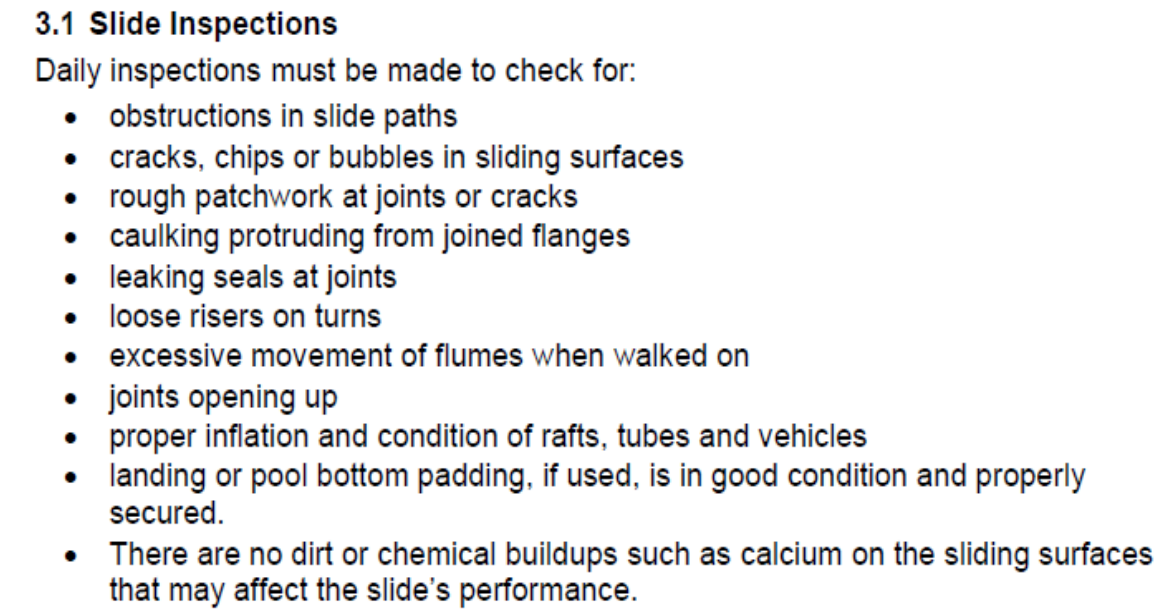


3.1 Slide Inspections

Daily inspections should be made to check for:

- obstructions in the slide path
- cracks, chips or bubbles in the sliding surface
- rough patchwork at joints or cracks
- leaking seals at joints
- loose risers on the turns
- excessive movement of the flume when walked on joints opening up
- proper inflation and condition of rafts, tubes and vehicles

Figure 1 - Daily slide inspection checklist for the Waterpark



3.1 Slide Inspections

Daily inspections must be made to check for:

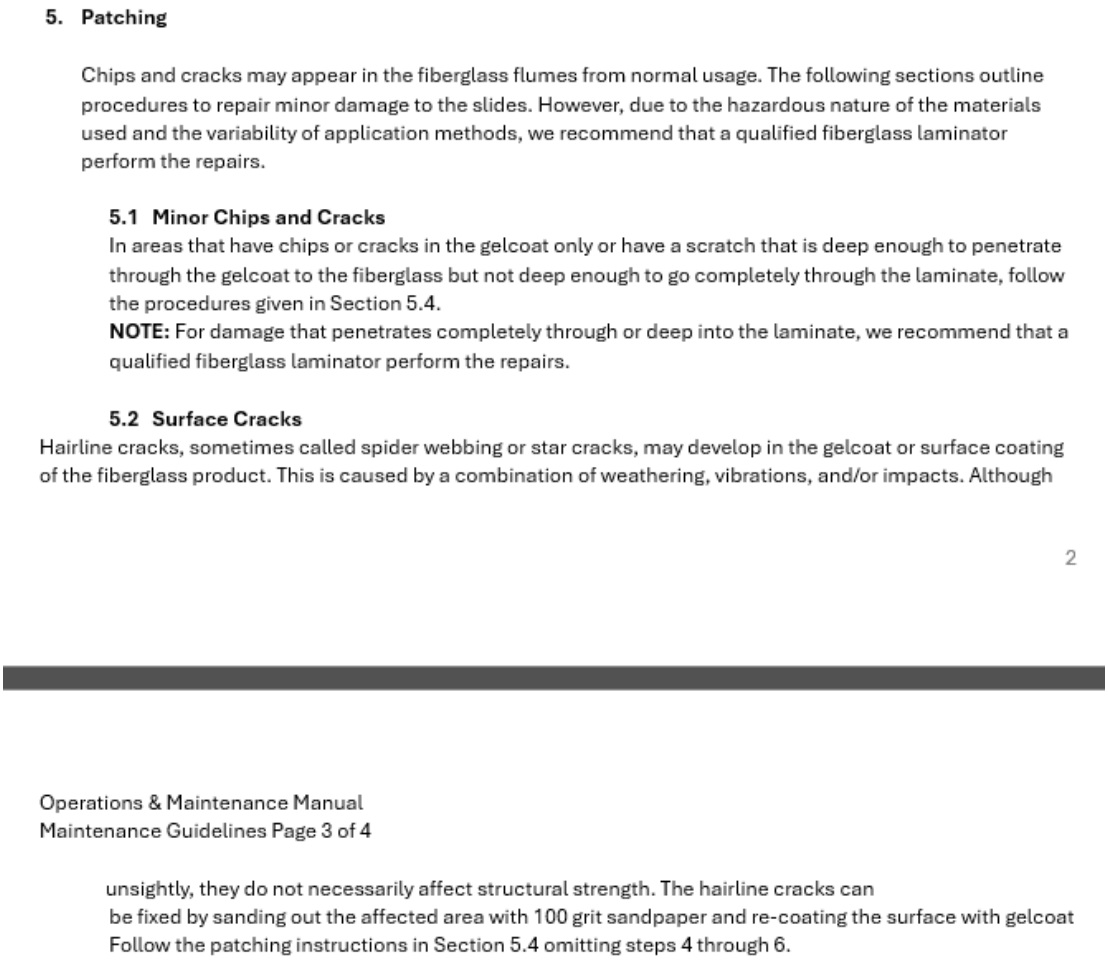
- obstructions in slide paths
- cracks, chips or bubbles in sliding surfaces
- rough patchwork at joints or cracks
- caulking protruding from joined flanges
- leaking seals at joints
- loose risers on turns
- excessive movement of flumes when walked on
- joints opening up
- proper inflation and condition of rafts, tubes and vehicles
- landing or pool bottom padding, if used, is in good condition and properly secured.
- There are no dirt or chemical buildups such as calcium on the sliding surfaces that may affect the slide's performance.

Figure 2 - Daily slide inspection checklist from modern manufacturer's manual

Interviews with Leads were conducted to determine the extent to which these procedures are known and followed. Leads consistently displayed good knowledge of the checklist items, but stated that they had been taught that the main concern were deficiencies in the sliding surface. Therefore, items such as cracks, and joints, were checked to make sure individuals could slide over them easily, without getting hurt (i.e. they were felt to see if they were sharp or not). They stated that when a deficiency in the sliding surface was noted, they would contact the general manager who would have it repaired.

Maintenance and Repairs Guidelines:

Maintenace and repair guidelines were also compared between the Waterpark manual, and that of the modern manufacturer's manual. It was found that, the modern slide manufacturer's manuals stated that certain cracks were a normal and expected occurance but that there was a noted difference between "structural cracks" and surface level cracks; however, it provided no details on how to identify a more structural crack, what the causes were, or how to repair it except that a qualified fiberglass laminator be used. It was found that the Waterpark manual had very similar wording and content to that of the modern slide manufacturer's manual.



5. Patching

Chips and cracks may appear in the fiberglass flumes from normal usage. The following sections outline procedures to repair minor damage to the slides. However, due to the hazardous nature of the materials used and the variability of application methods, we recommend that a qualified fiberglass laminator perform the repairs.

5.1 Minor Chips and Cracks

In areas that have chips or cracks in the gelcoat only or have a scratch that is deep enough to penetrate through the gelcoat to the fiberglass but not deep enough to go completely through the laminate, follow the procedures given in Section 5.4.

NOTE: For damage that penetrates completely through or deep into the laminate, we recommend that a qualified fiberglass laminator perform the repairs.

5.2 Surface Cracks

Hairline cracks, sometimes called spider webbing or star cracks, may develop in the gelcoat or surface coating of the fiberglass product. This is caused by a combination of weathering, vibrations, and/or impacts. Although

2

Operations & Maintenance Manual
Maintenance Guidelines Page 3 of 4

unsightly, they do not necessarily affect structural strength. The hairline cracks can be fixed by sanding out the affected area with 100 grit sandpaper and re-coating the surface with gelcoat Follow the patching instructions in Section 5.4 omitting steps 4 through 6.

Figure 3 - Excerpt from Waterpark Repair Manual on the repair of cracks

4. Patching

Chips and cracks may appear in fiberglass flumes from normal usage. The following sections outline procedures to repair minor damage to slides. Due to the hazardous nature of materials used and variability of application methods, we recommend that a qualified fiberglass laminator perform the repairs.

4.1 Minor Chips and Cracks

In areas that have chips or cracks in the gelcoat only, or have a scratch that is deep enough to penetrate through the gelcoat to the fiberglass but not deep enough to go completely through the laminate, follow the procedures given in Part III, Section 4.4.
NOTE: For damage that penetrates completely through or deep into the laminate, we recommend that a qualified fiberglass laminator perform the repairs.

4.2 Surface Cracks

Hairline cracks, sometimes called spider webbing, or star cracks may develop in the gelcoat or surface coating of the fiberglass product. This is caused by a combination of weathering, vibrations, and/or impacts. Although unsightly, they do not necessarily affect structural strength. The hairline cracks can be fixed by sanding out the affected area with 100 grit sandpaper and re-coating the surface with gelcoat. Follow the patching instructions in Part III, Section 4.4.3, omitting steps 4 through 6.

4.3 Cracks around Flanges

The area around the flanges of flumes contains a thick layer of gelcoat which is very stiff. Stresses from normal use may cause cracks in the gelcoat around the flanges. These are not structural cracks. Flange cracks may be remedied by sanding the affected area with 100 grit sandpaper and re-coating with gelcoat. Follow the patching instructions in Part III, Section 4.4.3, omitting steps 4 through 6.

Figure 4 - Excerpt from modern slide manufacturer's manual on crack repairs