

FAA ACS-11 ASA ACS Series: A Comprehensive Guide to Cable Installation Standards

The Federal Aviation Administration (FAA) has established a set of stringent standards for the installation, maintenance, and repair of coaxial cables and related components in airport lighting systems. These standards are documented in the FAA Advisory Circular (AC) 11, commonly known as the ACS-11 ASA ACS Series. This article provides a comprehensive overview of the requirements and guidelines set forth in the AC, aiming to assist electrical contractors, aviation lighting professionals, and airfield maintenance personnel in ensuring the safety and reliability of airport lighting systems.



Airman Certification Standards: Airline Transport Pilot and Type Rating - Airplane: FAA-S-ACS-11.1 (ASA ACS Series) by Elko Omar Vázquez Erosa

★★★★☆ 4.7 out of 5

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Scope and Applicability

The FAA ACS-11 ASA ACS Series applies to all airport lighting systems, including runway lighting, taxiway lighting, approach lighting, and other specialized lighting systems. It covers the installation, maintenance, and repair of coaxial cables, connectors, splice closures, and other related components used in these systems. The AC also provides guidance on the testing and inspection of installed cables and components.

Cable Specifications

The ACS-11 specifies the required characteristics and performance parameters for coaxial cables used in airport lighting systems. These cables must meet the following criteria:

- **Conductor:** Solid or stranded copper, with a minimum conductivity of 97% IACS.
- **Insulation:** Polyethylene or other approved material, with a minimum thickness of 0.030 inches.
- **Shield:** Aluminum tape or braid, with a minimum coverage of 90%.
- **Jacket:** Polyethylene or other approved material, with a minimum thickness of 0.050 inches.

Installation Requirements

The ACS-11 provides detailed instructions for the installation of coaxial cables in airport lighting systems. These instructions cover the following aspects:

- **Cable routing:** Cables must be routed in a manner that minimizes the risk of damage from physical hazards, environmental factors, and electromagnetic interference.

- **Bending radius:** Cables must be bent with a minimum bending radius of 10 times the cable diameter.
- **Splicing:** Splices must be made using approved methods and materials, such as heat-shrink sleeves or compression connectors.
- **Termination:** Cables must be properly terminated at all connection points using approved connectors.

Maintenance and Repair

The ACS-11 outlines the requirements for the maintenance and repair of coaxial cables and related components in airport lighting systems. This includes:

- **Periodic inspection:** Cables and components must be inspected regularly to identify any potential problems, such as damage, corrosion, or loose connections.
- **Repair:** Damaged cables or components must be repaired or replaced promptly using approved materials and methods.
- **Testing:** Cables and components should be tested periodically to ensure proper functionality and compliance with the specified performance parameters.

Safety Considerations

The installation, maintenance, and repair of coaxial cables in airport lighting systems must be performed by qualified personnel who are familiar with the specific requirements of the ACS-11. Proper safety precautions must be taken at all times, including:

- **Electrical safety:** Personnel must be trained in electrical safety and follow established procedures to prevent electrical shock or injury.
- **Fall protection:** Personnel working on elevated surfaces must use appropriate fall protection equipment.
- **Traffic control:** Work areas must be properly marked and controlled to prevent interference with airport operations.

The FAA ACS-11 ASA ACS Series provides comprehensive standards for the installation, maintenance, and repair of coaxial cables and related components in airport lighting systems. Compliance with these standards is essential to ensure the safety, reliability, and optimal performance of these critical systems. Electrical contractors, aviation lighting professionals, and airfield maintenance personnel should be thoroughly familiar with the requirements of the AC to ensure the safety and efficiency of airport operations.

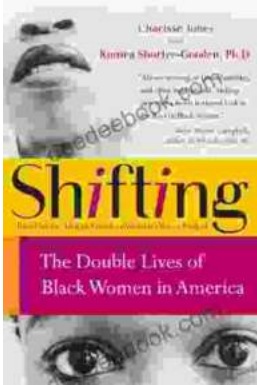


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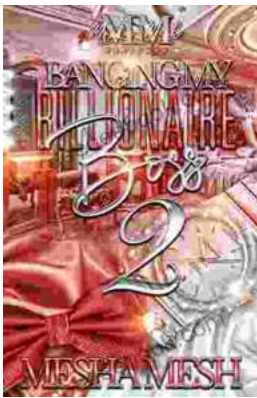
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