

Alstom Project Documentation Analysis

Executive Summary

This report contains summaries of the most important documents from the Alstom project. These documents have been selected based on their relevance to key project aspects such as specifications, technical requirements, plans, and critical correspondence.

Document Summaries

1. 01 Architecture - Structure - Roads Specifications.pdf

Location: 03- Specification

Summary: The document titled "01 Architecture - Structure - Roads Specifications.pdf" is a detailed specification report for the construction of a new cabling factory by Alstom. The document, dated 23rd February 2025, outlines the general requirements for the project, including the summary of work, unit price measurement and payment, project coordination, meetings, pre-construction conferences, progress meetings and schedules, survey and layout data, construction photographs, submittals, shop drawings, product data, samples, security, applicable standards, testing laboratory services, quality control, temporary utilities (electricity, lighting, water, telephone, internet), field offices, supervision personnel, personnel transport, temporary sanitary facilities, barriers and enclosures, project identification and signs, and product options and substitutions. Each of these sections provides specific guidelines and requirements for the respective aspects of the project. The document is a crucial resource for the project manager to understand the project's scope, requirements, and standards.

2. 02 Plumbing Specification.pdf

Location: 03- Specification

Summary: The document titled "02 Plumbing Specification.pdf" is a detailed specification report for the plumbing system of Alstom's new cabling factory. It includes the specifications for toilet, bath, and laundry accessories, as well as the requirements for the installation of expansion fittings, loops, sleeves, and sleeve seals for plumbing piping. The document is divided into three main parts: General, Products, and Execution. The General section includes related documents, a summary, submittals, quality assurance, coordination, and warranty. The Products section details the materials, public-use washroom accessories, and fabrication. The Execution section covers installation, adjusting, and cleaning. The

document also outlines the specifications for packless expansion joints, grooved-joint expansion joints, and alignment guides and anchors. It is crucial for the project manager to understand these specifications to ensure the plumbing system meets the required standards and quality.

3. 03 HVAC and Compressed Air Specification.pdf

Location: 03- Specification

Summary: The document titled "03 HVAC and Compressed Air Specification.pdf" is a detailed guide for the HVAC (Heating, Ventilation, and Air Conditioning) specifications for the new Alstom cabling factory. The document, dated 23 February 2025, outlines the basic mechanical requirements, including general descriptions, submittals, protection measures, job conditions, extra stock and spare parts, operation and maintenance manuals, inspections, test reports, certificates, and guarantees. It also provides information on products, including general information, materials, motors, and controls. The execution section includes details on general execution, cutting and patching, excavating and backfilling, installation of equipment, welding, protection, and field quality control. The document is crucial for understanding the HVAC requirements and standards for the factory construction project.

4. 04 Mechanical Specification.pdf

Location: 03- Specification

Summary: The document titled "04 Mechanical Specification.pdf" is an updated mechanical specification for Alstom's new cabling factory. It outlines the requirements for the fire suppression system, specifically focusing on fire pumps. The document details the general responsibilities of the contractor, including providing all labor, materials, tools, and equipment, coordinating with other trades, and installing all necessary items for a complete installation.

The work must comply with several codes and standards, including ANSI, ASME, ASTM, NFPA, FM, UL, ISO, and IEC. Quality assurance measures include inspection and testing services by qualified personnel, and the manufacturer must have at least 10 years of documented experience.

The document also outlines requirements for submittals, such as certified pump curves, final required pump horsepower, manufacturers' literature, and minimum controls on pump installations.

The contractor is responsible for delivering all hardware in the manufacturer's original packaging, supplying special tools required for maintenance and repair, and providing

specified spare parts. All equipment and machinery must be manufactured by reputable manufacturers with local agents for after-sale services.

5. 05 Firefighting Specification.pdf

Location: 03- Specification

Summary: This document, titled "Firefighting Specification" for the new Alstom cabling factory, provides detailed specifications for the installation and quality assurance of fire-suppression systems. The document outlines the requirements for sleeves and sleeve seals for fire-suppression piping, including the types of sleeves, stack-sleeve fittings, sleeve-seal systems, sleeve-seal fittings, and grout. It also provides instructions for the installation of these components. Additionally, the document provides specifications for escutcheons for fire-suppression piping. The new project manager should familiarize themselves with these specifications to ensure compliance with fire safety standards and quality assurance procedures.

6. 06 Electrical Specification.pdf

Location: 03- Specification

Summary: The document titled "06 Electrical Specification.pdf" is a detailed guide for the electrical specifications of the new Alstom cabling factory. The document outlines the basic electrical materials and methods, regulations and standards, power supply, telephone public exchange lines, motors and other electrically operated equipment, and equipment. It also provides information on climatic conditions, drawings, submittals, quality assurance, coordination, and equipment and materials. The document further specifies the products to be used, including supporting devices, electrical identification, covers for trenches, brackets, supports, rails and tracks, concrete bases, equipment for electricity metering, anti-condensation heaters and ventilators, and electrical control locations. The execution part of the document details the installation of electrical equipment, supporting device application, support installation, identification materials and devices, and fire stopping. The document is critical for understanding the electrical requirements and standards for the new manufacturing cabling site.

7. 07 Low Current Specification.pdf

Location: 03- Specification

Summary: The document titled "07 Low Current Specification.pdf" is a detailed specification report for a new manufacturing cabling site under Alstom. It was issued on 23 February 2025 and contains comprehensive information about the low current specifications for the project. The document is divided into several sections, including

general information, products, and execution.

Key areas of focus include structured cabling, related documents, summary, reference standards, definitions and abbreviations, scope of work, products and work by others, confidentiality, system description, submittals, quality assurance, delivery, storage and handling, project/site conditions, warranty, maintenance and support, spare parts and extra material.

The execution section details the examination, measurement procedures, preparation, installation, field quality control, cleaning, and demonstration and training. Another significant section is the identification for communication systems.

The document is crucial for understanding the technical requirements, standards to follow, and procedures for the project. It also outlines the responsibilities for various tasks, ensuring quality assurance, and maintaining confidentiality.

8. Sandwich Panel Specifications.pdf

Location: 06- CRs\03- CR#03 Sandwich panels

Summary: The document provides specifications for the construction of metal standard sandwich panels at a new manufacturing cabling site. The panels, to be manufactured by experienced specialists, must meet certain thermal, structural, and seismic performance standards. The maximum thermal U value should not exceed $0.4 \text{ w/m}^2\text{k}$ and the panels should be corrosion resistant, waterproof, and allow for light panel installation. Panels must comply with BS EN 14509 and withstand wind loads, deflection limits, and seismic performance as per the Egyptian code of practice (Ministerial Decree 367/2003). The panels should also accommodate thermal movements and maintain thermal performance as per ASTM C 236 or ASTM C 518. Submissions should include product data, installer certificates, installer experience, shop drawings, and coordination drawings. European standards are accepted as equivalent to American standards.

9. Getechnical Report - Alstom Cabling plant - Borg Al-Arab, Alexandria - Sep 2024 - R2.pdf

Location: 02- GEOTEchnical report

Summary: The document is a report on exploratory geotechnical investigations and foundation recommendations for the Alstom Cabling Plant in Borg Al-Arab, Alexandria, Egypt. The report was prepared by ARDAMAN-ACE, a consulting firm specializing in soil mechanics, foundations, and material testing. The report includes a detailed account of the site location, topography, and project description. It outlines the methodology and equipment used for borehole execution and standard penetration tests. The report also

includes the installation of standpipe piezometers and a comprehensive laboratory testing program. The subsurface conditions were analyzed, identifying the presence of silty clay, sand, and groundwater. The report concludes with an analysis of field and laboratory test results, including standard penetration tests and Atterberg limits. This information is crucial for the project manager to understand the geotechnical conditions of the site and make informed decisions about the construction process.

10. Alston Factory - Borg El Arab - IFC List of Drawings 10-4-2025.pdf

Location: 01- IFC drawings

Summary: The document, "Alston Factory - Borg El Arab - IFC List of Drawings 10-4-2025.pdf", is a detailed list of architectural drawings for the new manufacturing cabling site. The document includes drawings for various parts of the factory such as the Administration and Lockers building, Canteen Building, Fence, Guard Post, Main Workshop, Master Plan, Prayer Buildings, and Security Building. Each drawing is labeled with a unique number, revision, title, and scale. The drawings cover a wide range of details including floor plans, elevations, sections, openings details (doors and windows), wet areas details, stairs, external boundary fence, general plan, doors, windows & finishing schedule, master plan (setting-out, hardscape, softscape, planting area boundaries), and specific details for bathrooms. The scales of the drawings vary, with the smallest being 1:10 and the largest 1:400. This list of drawings provides a comprehensive overview of the architectural design of the new manufacturing cabling site.