

## SSG-I/E 9104 E

 Date
 Edition
 Designation
 Page

 1997-10-01
 2
 TKI/TKE
 1(9)

## Fibre optics

## Introduction

This issue differs from the preceding issue mainly by being adapted to suit developments in the field, and by taking into account the current regulations and standards.

This report gives instructions and general recommendations in the field of fibre optics.

The instructions do not claim to be complete or comprehensive, but may provide support in project design, installation, enquiries and the selection of communication networks based on fibre optics.

Three principal areas must mainly be taken into account in the project design of optical fibre telecommunication systems. These are:

- transmission requirements (electric signals that are to be transmitted)
- selection of transmission equipment
- rating of cable networks

## **Contents**

- Advantages and disadvantages of fibre optics
- 2 Suitable applications
- 3 Costs
- 4 Fibres
  - 4.1 Fibre types
  - 4.2 Fibre and primary coating
  - 4.3 Secondary coating
  - 4.4 Wavelength
  - 4.5 Bandwidth and attenuation
  - 4.6 Inspection measurements
- 5 Optical cables
  - 5.1 General
  - 5.2 Building backbone cable (Distribution cable)
  - 5.3 Break-out cable (Equipment cable)
  - 5.4 Patch cable (equipment cable)
  - 5.5 Handling
  - 5.6 Fire classification
  - 5.7 Cable marking
  - 5.8 Length and conductor marking
  - 5.9 Type designations and descriptions

- 6 Laying of optical cables
  - 6.1 In conduit above ground or underground
  - 6.2 On racks
  - 6.3 Underground
  - 6.4 Other cable runs
  - 6.5 Splicing of optical cable
  - 6.6 Measuring
  - 6.7 Cable termination
- 7 Service
  - 7.1 Connectors
  - 7.2 Splicing
  - 7.3 Fault location
- 8 Documentation
- 9 Properties of fibre types and their main applications
- 10 Glossary of terms
- 11 References