



Exploration & Production

GENERAL SPECIFICATION

PIPELINES - RISERS

GS EP PLR 111

Submarine bundles

02	10/06	General review
01	10/05	Addition of "EP" root to GS identification
00	10/03	First Issue
Rev.	Date	Notes

Contents

1. Scope	3
2. Reference documents.....	3
3. Subsea bundle systems	4
4. Objectives	5
5. Serviceability	5
6. Initial response	5
7. Design roadmap	6
8. Selection of the bundle system	7
9. Combined thermal and mechanical design	8
10. Active heating.....	8
11. Reliability	9
12. Components	9
13. Corrosion protection.....	9
14. Installation	10
15. Tie-ins.....	10

1. Scope

The purpose of this General Specification is to specify the minimum requirements for the design, fabrication and installation of a submarine bundles system, as defined in Section 3.

The **GS EP PLR 111** does not fully apply to organised riser systems (such as for example riser towers).

Multiple line riser concepts are not covered by the **GS EP PLR 111**.

This General Specification shall be read in conjunction with the **GS EP PLR 100**.

2. Reference documents

The reference documents listed below form an integral part of this General Specification. Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published at the EFFECTIVE DATE of the CONTRACT.

Standards

Reference	Title
Not applicable	

Professional Documents

Reference	Title
Not applicable	

Regulations

Reference	Title
Not applicable	

Codes

Reference	Title
Not applicable	

Other documents

Reference	Title
Not applicable	

Total General Specifications

Reference	Title
GS EP PLR 100	Submarine pipeline systems

3. Subsea bundle systems

A subsea bundle represents a wide variety of structural arrangement of lines which, in addition to one or several in-field or export transportation pipelines, may comprises:

- Water injection flowline(s)
- Gas lift flowline(s)
- Service fluid line(s) such as chemicals injection, kill-choke
- Electrical power cable(s)
- Hydraulic control line(s)
- Electrical control line(s)
- Optical fiber control line(s)
- Composite cable(s) with any combination of the above power and control functions

as necessary for the intended offshore development.

Most typical structural arrangements are schematically presented in the following figure:

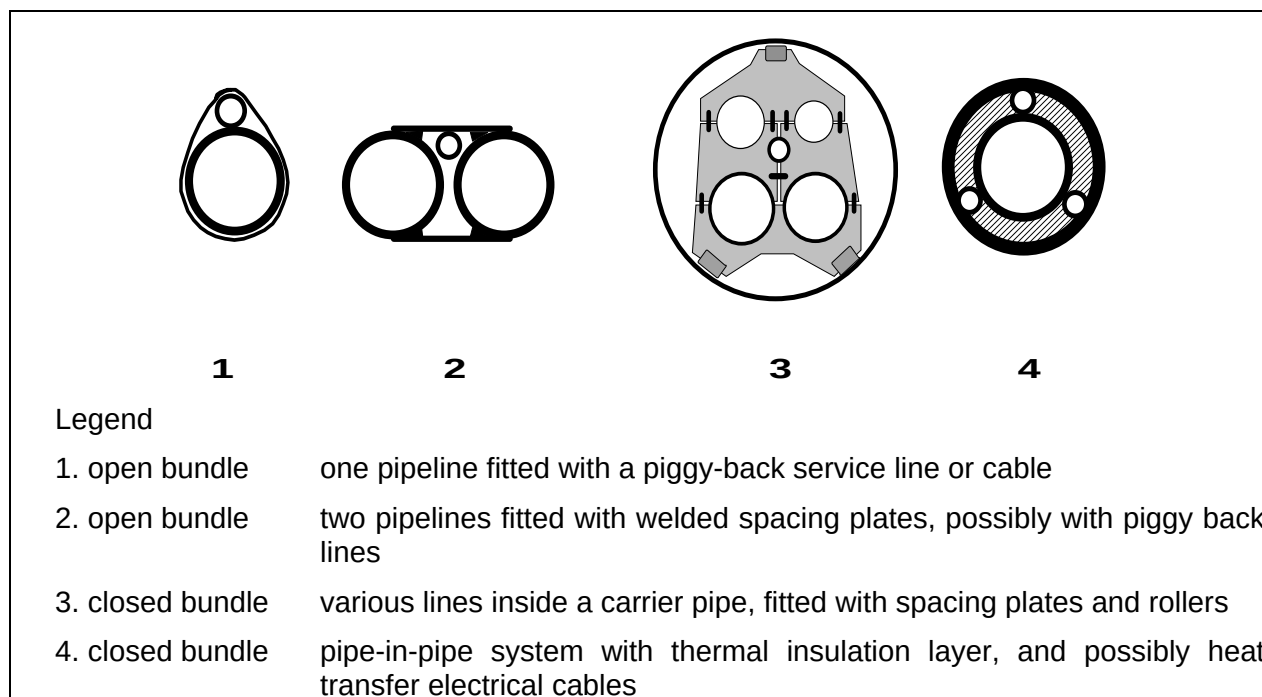


Figure 1 - Typical subsea bundle systems