

GENERAL SPECIFICATION

CORROSION

GS EP COR 004

**Limiting flow velocities calculations for erosion
corrosion purpose**

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1. Scope

This specification defines the design criteria for calculating limiting flow velocities to prevent liquid erosion-corrosion phenomena, i.e. limitations to high velocities. Its application limits are as follows:

- Applicable for all produced fluids, from single phase to 3 phases, as well as injection water
- Applicable to pipelines and to piping systems, including vessel nozzles.
- Carbon steel and stainless steels are addressed, as well as copper alloys (used for aerated sea water).

This specification does not address flow velocity limitations:

- For relief piping (upstream or downstream pressure relieving equipment)
- For other causes than erosion-corrosion (vibrations, noise). In some cases, these limitations may be more severe than the ones given in this GS. They are covered by **GS EP ECP 103**
- Specific to particular equipment such as pumps, valves, compressors etc. also covered by **GS EP ECP 103**
- Regarding the low velocity side, i.e. minimum flow velocities (e.g. for Top of Line Corrosion, solid accumulation, etc.).

2. Reference documents

The reference documents listed below form an integral part of this General Specification.

External Documents

Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and addendums, is the latest revision published at the effective date of this document.

Reference	Title
API RP 14E	Recommended Practice for Design and Installation of Offshore Production Platform Piping Systems

Total General Specifications

Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and addendums, is the latest revision published.

Reference	Title
GS EP COR 001	Corrosion control on production facilities: Design and construction
GS EP ECP 103	Process sizing criteria