



**International
Standard**

ISO 24835-1

**Natural gas upstream area —
Determination and calculation of
shale brittleness index —**

Part 1:

**Determination of shale mineral
characteristics based on X-ray
diffraction method**

**First edition
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Foreword

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This document was prepared by Technical Committee ISO/TC 193, *Natural gas*, Subcommittee SC 3, *Upstream area*.

A list of all parts in the ISO 24835 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

This document has been developed to address the need for evaluating shale brittleness in the production of shale gas. In order to boost shale gas production, it is essential to create flow paths within shale gas reservoirs through hydraulic fracturing. The shale brittleness index, serving as a crucial parameter for forecasting the complexity of hydraulic fracturing cracks, is a vital benchmark for identifying high-quality shale gas reservoirs. Therefore, a standardized approach for calculating the shale brittleness index can assist stakeholders (e.g. oil companies, oilfield service providers, investment firms and governments) to accurately pinpoint "sweet spots" within shale gas reservoirs, select promising areas with development potential, and facilitate efficient shale gas development.

In the global shale gas production industry, two types of optimal methods for characterizing shale brittleness index are preferred: the mineral composition method and the rock mechanics method. This is due to their theoretical effectiveness, operational generality and result reliability. The ISO 24835 series has been developed on the basis of these two methods.

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