

Summarised description

Unit name

Saint-Joseph Member

Code

STJ

Status

Formal Member

Parent unit

Moulin de la Foulerie Formation

Child units

None

Characteristic description

Mixed silty and shaly limestone with coarse-grained crinoidal limestone beds.

Age

Late Emsian

Thickness

60 to 120 metres

Area of occurrence

Southern limb of the Dinant Synclinorium up to Izier.

Type locality

Section along the west bank of the Eau Noire River, about 100 m north of the foot-bridge south of Couvin near the Moulin de la Foulerie.

Alternative names

Grauwacke de Bure

Authors

Tsien (1974)

Modified after

Denayer, J. & Mottequin, B., 2024. Lower Devonian lithostratigraphy of Belgium. *Geologica Belgica*, 27/3-4, 115–154.

Date

23/09/2025

Cite as

Denayer, J. & Mottequin, B., 2025. The Saint-Joseph Member, 23/09/2025. National Commission for Stratigraphy Belgium. <https://ncs.naturalsciences.be/lithostratigraphy/Saint-Joseph-Member>

Full description

Unit name

Saint-Joseph Member

Code

STJ

Status

Formal Member

Parent unit

Moulin de la Foulerie Formation

Child units

None

Origin of the name

After Saint-Joseph, a hamlet of the Nismes village near Couvin.

Alternative names

Grauwacke de Bure

Authors

Tsien (1974, 21): *Saint-Joseph Member*.

Modified after

Denayer, J. & Mottequin, B., 2024. Lower Devonian lithostratigraphy of Belgium. *Geologica Belgica*, 27/3-4, 115–154.

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Characteristic description

The base of the Saint-Joseph Member is defined by the first laterally-continuous bed of light grey or bluish argillaceous limestone overlying the siltstone and sandstone of the Hierges Formation. Its passes upwards to a mixed silty and shaly limestone succession including beds of coarse-grained crinoidal limestone commonly rich in crinoids, brachiopods and other bioclasts, often dissolved in surface (*Grauwacke de Bure* in the old literature). A horizon of haematitised bioclasts and oolites occurs in the Lomme River valley (e.g. Denayer et al., 2011). Calcareous sandstone beds still occur sporadically. The top of the Member is marked by a 2 m thick limestone bed in the type section.

Area of occurrence

Southern and south-eastern limbs of the Dinant Synclinorium up to the Ourthe River valley.

Type locality

The stratotypes of the Saint-Joseph Member in Nismes and Olloy-sur-Viroin have completely disappeared. The best section nowadays is the section along the west bank of the Eau Noire River,

about 100 m north of the foot-bridge south of Couvin near the Moulin de la Foulerie (Bultynck, 1970; Marion & Barchy, 1999).

Age

The Saint-Joseph and Eau Noire members correspond to the lower Couvinian 'Co1' in the classic literature (i.e. Maillieux, 1938; Bultynck, 1970) and is mostly late Emsian in age (*patulus* conodont Zone; Bultynck & Godefroid, 1974).

Thickness

The Member is about 60 m thick between Couvin and Olloy-sur-Viroin (Marion & Barchy, 1999); further to the east, its thickness increases to a maximum of 160 m in the Wellin–Halma area (Dumoulin & Blockmans, 2013), and east of this area, it decreases, reaching 60 m at Grupont (Blockmans et al., 2019), 45 m in Jemelle and Marche-en-Famenne, and only 15 m in the Aisne River valley (Lessuise et al., 1979).

Lower boundary

The first laterally-continuous bed of light grey or bluish argillaceous limestone overlying the siltstone and sandstone of the Hierges Formation.

Upper boundary

Last bed of calcareous sandstone, usually underlined by a 2 m thick bed of impure limestone.

Regional correlations

In the Aisne River valley (Villers-Sainte-Gertrude), the sandy facies dominates and the Saint-Joseph member cannot be distinguished anymore from the overlying Eau Noire Member (Bultynck, 1991).

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