



GHENT  
UNIVERSITY

# FLEPOSTORE

ROCK HAND SPECIMEN & THIN SECTION  
DESCRIPTION

<https://flepostore.ugent.be/>

For the description of rock hand specimens and thin sections following aspects are taken into account<sup>1</sup>.

## 1 COMPONENTS

- **Grain type**
  - Allochems (limestones>): presence of bioclasts, oncoliths, oöliths, etc.
  - Clasts: presence of intraclasts, lithoclasts, xenoliths, etc..
  - Minerals: distinction is made between main minerals and accessory minerals
  - Fossils: presence of macro-/micro-/ichno- fossils
- **Cement type**: e.g. calcareous, clay, siliceous, iron, etc.
- **Matrix**: description of the matrix
- **Porosity**: porosity type (secondary or primary), grade and shape

## 2 TEXTURE

- **Grain size**: see Wentworth scale (Figure 1)
- **Sorting**: see Pettijohn, Potter and Siever 1972 (Figure 2)
- **Grain shape**: see Powers 1953 (Figure 3)
- **Fracture**: e.g. angular, conchoidal
- **Varia**: e.g. in case of igneous rock: aphanitic, porphyritic, glassy, vesicular, fragmental/pyroclastic

## 3 STRUCTURE

- **Sedimentary structures**: e.g. homogeneous or heterogeneous; bedding (sharp, irregular, nodular/lenticular), cross-bedding, wavy, chaotic, etc. ; presence of bioturbation
- **Diagenetic structures** e.g. chert, quartz veins
- **Tectonic structures** e.g. schistosity, stylolites, ...
- **Metamorphic structures** e.g. banding, foliation, ...
- **Igneous structures** e.g. vacuoles

## 4 WEATHERING

Weathering aspects of the rock are described: e.g. oxidation, patina/color, crust, leaching, etc. Terminology is based on the ICOMOS glossary<sup>2</sup>.

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<sup>1</sup> descriptions are qualitative

<sup>2</sup>[https://www.icomos.org/publications/monuments\\_and\\_sites/15/pdf/Monuments\\_and\\_Sites\\_15\\_ISCS\\_Glossary\\_Stone.pdf](https://www.icomos.org/publications/monuments_and_sites/15/pdf/Monuments_and_Sites_15_ISCS_Glossary_Stone.pdf)

Millimeters (mm)	Micrometers ( $\mu\text{m}$ )	Phi ( $\phi$ )	Wentworth size class
4096		-12.0	Boulder
256		-8.0	Gravel
64		-6.0	
4		-2.0	
2.00		-1.0	
1.00		0.0	Very coarse sand
1/2	500	1.0	Coarse sand
1/4	250	2.0	Medium sand
1/8	125	3.0	Fine sand
1/16	63	4.0	Very fine sand
1/32	31	5.0	Coarse silt
1/64	15.6	6.0	Medium silt
1/128	7.8	7.0	Fine silt
1/256	3.9	8.0	Very fine silt
0.00006	0.06	14.0	Clay

Figure 1: Grain size, Wentworth scale (Wentworth 1922)

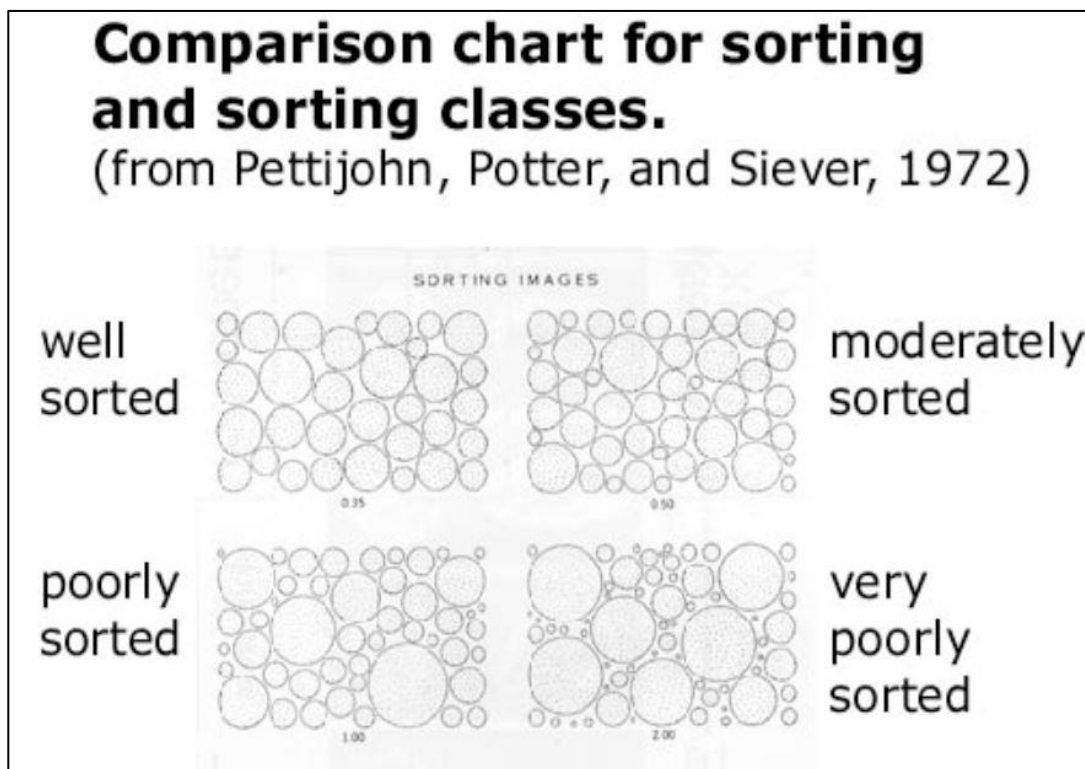


Figure 2: Comparison chart for sorting classes (Pettijohn, Potter and Siever 1972)

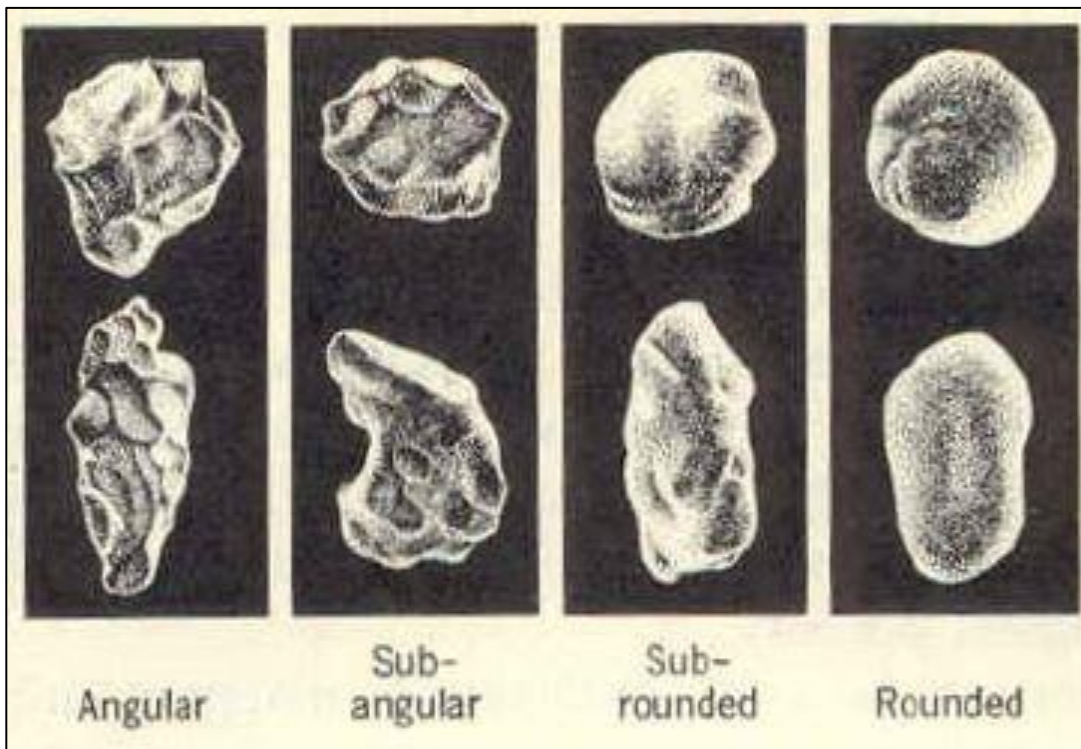


Figure 3: Grain shape (after Powers 1953).

## 5 BIBLIOGRAPHY

Pettijohn F.J., Potter P.E. & Siever R. 1973. *Sand and sandstone*. Springer, Berlin.

Powers M.C. 1953. A new roundness scale for sedimentary particles. *Journal of Sedimentary Research* 23, 2: 117-119.

Wentworth C.R. 1922. A scale of grade and class terms for clastic sediments. *Journal of Geology* 30: 377-392.