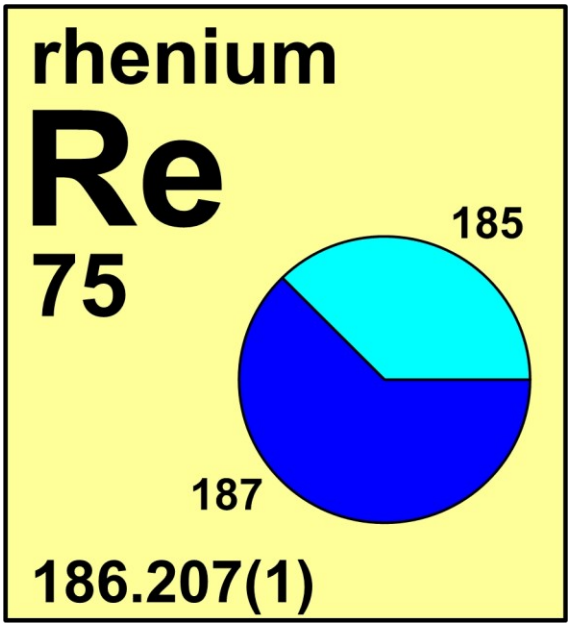
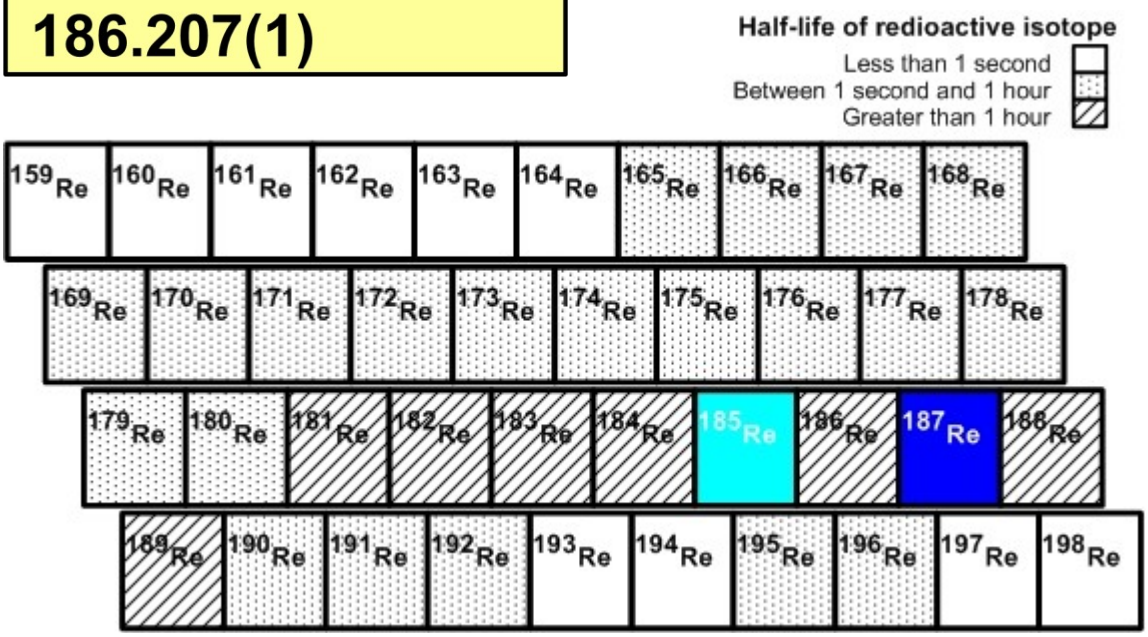
rhenium



Stable isotope	Atomic mass*	Mole fraction
^{185}Re	184.952 955	0.3740
^{187}Re	186.955 7531	0.6260

* Atomic mass given in unified atomic mass units, u.



Important applications of stable and/or radioactive isotopes

Isotopes in geology and planetary sciences

1) The Re-Os method is of special interest for the dating of Re containing ores, minerals and meteorites where ^{187}Os is formed by the beta-decay of the ^{187}Re isotope with a half life of 4.23×10^{10}years.

Isotopes in medicine

1) ^{186}Re is a beta emitting radioisotope (half life: 3.8 days) that is used for cancer treatment, in particular for pain relief in bone cancer and in rheumatoid arthritis. It is produced from stable ^{185}Re.
2) ^{186}Re is also used for radio-labelling of cancer therapeutic agents.
3) ^{188}Rhenium (half life: 17 h) is used to beta irradiate coronary arteries from an angioplasty balloon and in palliative therapy (bone metastases).
4) ^{188}Re can be produced from stable ^{187}Re but most ^{188}Re is produced from ^{186}W.