

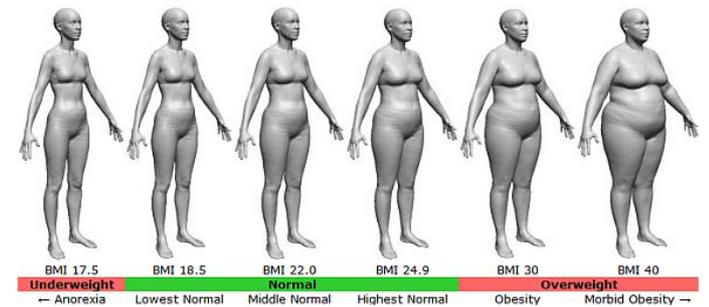
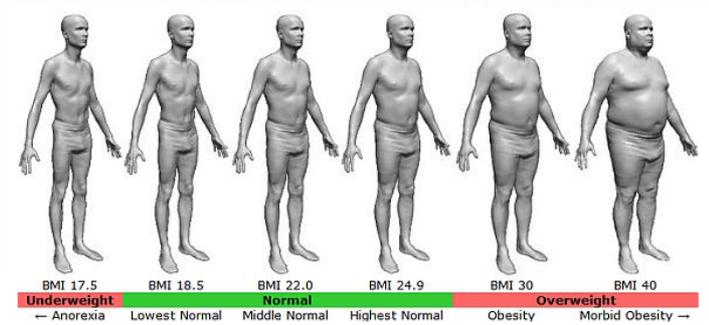
How much buoyancy should a lifejacket have with regard to the body weight of the wearer?

Whether a body floats in water depends to its density relative to water.

	density kg/l	buoyancy
water	1,0	neutral buoyancy
human body	0,985	average weight pr liter = almost neutral
muscle	1,06	heavier than water - a person of 100 kg pure muscle needs 6 kg = 60 N buoyancy to float
fat	0,9	lighter than water - will always float at the surface

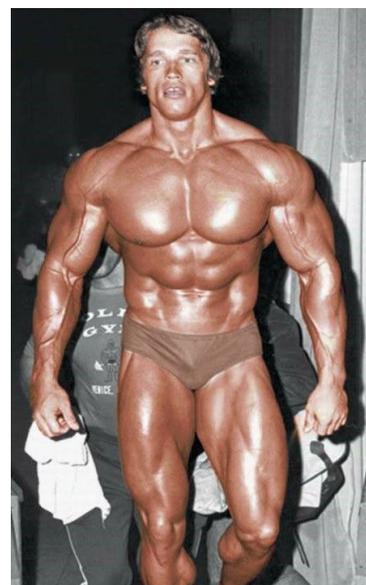
The buoyancy of the human body

- is almost neutral - that is why we can swim
- does not depend on the body weight, but the composition, i.e. the proportions of muscle to fat



← floating deteriorates floating improves →

worst floating →



A lifejacket (not a swimming aid with 50 N) shall

- keep mouth and nose above water and at a certain angle to minimise the danger for water ingress in the respiratory tract
- turn an unconscious person from a face down position into a stable position on the back
- provide extra buoyancy when a person is exhausted

In general a lifejacket does this independently of the body weight.

The international standard for lifejackets does therefore not classify lifejackets according to body weight, but according to area of use:

50 N swimming aid for persons that are

- conscious
- close to land
- with help at hand

150 N lifejacket for offshore use and together with waterproof clothing

275 N lifejacket for extreme offshore conditions and when carrying heavy equipment

During certification all lifejackets are tested with people in 8 different weight classes. The heaviest person weighs more than 120 kg.

Ki-Vest 165 has a buoyancy of 165 N = 16 kg.

With a Ki-Vest donned, a person that carries 10 - 15 kg equipment will still float.