

## Wrangel (1910) on compass points

The division is based on two diameters, namely the north-south line and the perpendicular east-west line. North, south, east and west respectively are called cardinal points. All other points receive names based on these four points.

The points in between two cardinal points are called quadrantal points and are named after the two cardinal points, i.e. northeast, northwest, southeast and southwest, respectively.

In a similar fashion a point in between a cardinal point and a quadrantal point take its name from them. Thus, the point in between N and NE is called NNE; the point between E and NE is called ENE, and further on clockwise ESE, SSE, SSW, WSW, WNW and NNW respectively.

The remaining 16 points are named after the cardinal or quadrantal point which is nearest, by inserting the word "by" between beforementioned point (N, E, S, W or NE, SE, SW, NW) and the closest cardinal point in the opposite direction. The point closest to N (in a clockwise direction) is thus called N-by-E; the point closest to NW (counter clockwise) is called NW-by-W, and so on. The names of the remaining 14 points are hence, clockwise, NE-by-N, NE-by-E, E-by-N, E-by-S, SE-by-E, SE-by-S, S-by-E, S-by-W, SW-by-S, SW-by-W, W-by-S, W-by-N, NW-by-N, and N-by-W, respectively.

Every point is furthermore divided into half and quarter points. These are named from one of the closest points and the nearest cardinal point in the opposite direction. Thus the division between N and N-by-E is called  $N\frac{1}{2}E$ ; between N-by-E and NNE is called  $N\text{-by-}E\frac{1}{2}E$ ; between NE and NE-by-N is called  $NE\frac{1}{2}N$ , and so on. The same norm is followed by all nations, but not always the same order. Everywhere, however, one sees a search for names as short as possible; although the names of half and quarter points may differ in different languages, however, no mistakes should be able to occur. The half and quarter points between e.g. ENE and E-by-N are in Sweden called  $ENE\frac{1}{4}E$ ,  $ENE\frac{1}{2}E$ ,  $ENE\frac{3}{4}E$  but in England  $E\text{-by-}N\frac{3}{4}N$ ,  $E\text{-by-}N\frac{1}{2}N$ ,  $E\text{-by-}N\frac{1}{4}N$ .

This division of the compass by successive halvings in points, half points and quarter points were particularly convenient at the time when helmsmen generally could not read. The quarter point was also considered as the smallest division he could distinguish. When steering compasses with a diameter of more than 10 inches begun to be used the degrees are large enough to be distinguished by a person with reasonably good eyesight; together with increased requirements on accuracy in the navigation as well as improved steering capabilities especially in large steam ships have led to the more general division of the compass in degrees. As the reckoning in many cases has to be performed in degrees, e.g. the calculation of a body's azimuth, and the variation always is given in degrees, it is obviously much simpler and safer to always use degrees for course, deviation and leeway as for azimuths and variation. The degrees on the compass are reckoned from north or south towards east or west, e.g.  $N10^{\circ}W$ ,  $S78^{\circ}E$ , and so on. Compasses divided into  $360^{\circ}$  are nowadays becoming used here and there.