

## Submersible Ratings: Explained

You've heard Icom refer to their submersible F50 series radios as meeting JIS-7 standards, and more recently as meeting IP-X7 standards. What are those standards and what do they mean?

### The JIS scale

JIS stands for Japanese Industrial Standard. There are many things the JIS rates, just as there are many things FM standards rate, or, for that matter, many things Consumer Reports® magazine rates. One of the things JIS rates is the amount of water electronic devices can tolerate. Translating from Japanese into English, the lengthy rules loosely read as follows:

JIS - 0: No water protection

JIS - 1: Drip resistant 1. No harm from water dripping perpendicularly.

JIS - 2: Drip resistant 2. No harm from water falling from a 15% range off perpendicular.

JIS - 3: Spray resistant. No harm from rain covering the range from 60% off perpendicular.

JIS - 4: Splash resistant. No harm from receiving a splash of water from any direction.

JIS - 5: Jet resistant. No harm from receiving a jet of water from any direction.

JIS - 6: Watertight. No ingress of water by receiving a jet of water from any direction.

**JIS - 7: Immersion proof. No ingress of water when immersed under 1 meter of water for 30 minutes.**

JIS - 8: Submersible. Designed for use under water. Custom testing as needed.

### The IEC scale (aka IP-XX scale)

Icom adopted the IEC standard as of Fall 2004, phasing out its use of the JIS standards. Icom feels the IEC standard, or International Electrotechnical Commission standard, is a more world-recognized standard. Be that as it may, the IEC water resistant tests are nearly identical to the JIS tests - a rating of IP-X7 means virtually the same as a rating of JIS-7.

What is the X in IP-X7 stand for? The X is a dust proof rating. In this case, X stands for "not tested for dust". Icom's radios are not currently IEC tested for dust. However, they are MIL STD tested, and dust resistance is a big part of that test!