



The Ultimate Guide to

Rugged Phones



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The Ultimate Guide to

Rugged Phones

In frontline businesses in particular, smartphones have replaced computers, paperwork, and in some cases, tablets for communication and everyday tasks. Unfortunately, the average consumer smartphone lacks the durability needed for the hustle and bustle of frontline work. Businesses often find they must replace their workers' devices due to damage inflicted by falls, dust, water, and other harsh elements.

In contrast, rugged phones mitigate the kinds of damage that consumer phones are at risk for sustaining. They are fully sealed with a case designed not only to protect from water and dust, but also to protect from shock and vibration. Prominent, programmable hardware buttons improve use when wearing gloves.

We highly recommend rugged phones to our customers in order to get the most out of their experience with Zello, especially for those operating in more rugged industries, such as construction, transportation, or manufacturing.

Key Rugged Phone Features

⚙️ Durability

The first standard to look for in a ruggedized phone is IP (Ingress Protection) rating. IP rating is the degree of protection that a rugged device or case offers. This rating is important, because it helps differentiate between levels of durability. There is a big difference, for instance, between a “waterproof” phone that can only withstand a light drizzle of rain as opposed to one that can be fully immersed and continue to work fine.

The first number after the “IP” rates how dustproof a rugged phone is while the second number rates how waterproof it is. 6 is the highest rating for being dustproof, indicating that the phone can be entirely protected from dust over a long period of time. 9 is the highest rating for being waterproof, and indicates that the device can be protected against “high pressure, high temperature jets of water from multiple directions.”

💡 **Pro Tip:**
Look out for IP certification, it tells you how tough your rugged phone really is.

When seeking a rugged phone line for your team, do not go any lower than an IP68 or IP69 rating. An IP68 rating indicates that a device can survive immersion, while IP69 ratings mean that the device can withstand water jets.

The best rugged phones can sustain drops of 2 meters at minimum. For the most rugged use, seek out phones that are rated MIL-STD 810G, which are waterproof, shockproof, and dustproof enough for military use. To garner this rating, devices are subjected to high and low temperatures, water, humidity, sand, and dust using a variety of procedures and exposure times that mimic real world military use. They also must be able to be disassembled while wearing winter gear.

A more technical explanation and a look at the types of tests devices must endure to gain a MIL-STD-810G rating are available [here](#).



❖ Clear and Loud Audio with Front-Facing Speakers

Zello is known for its crystal clear digital audio, which stands in contrast to the crackly audio found on most traditional land mobile radios. However, Zello's audio is only as good as the devices it is amplified through. Workers



operating in noisy environments like a construction site or the cab of a truck need a phone that projects louder than regular consumer phones. Noise cancellation should also be a priority; however, if a phone is paired with a Bluetooth or wired headset, noise cancellation in the phone itself may be less critical, since this feature can be sought through these accessories instead.

Most consumer grade phones place speakers on the back or bottom of the phone. This is fine for average use in a consumer-grade case, but back-facing speakers are blocked when the phone is placed in a rugged case, since rugged cases enclose the entirety of the phone. In contrast, ruggedized phones do not require the purchase of a separate case. What's more, the

speakers are placed on the front of the device so they are not blocked. In this way, they provide significantly better sound quality than a consumer grade phone snapped into a rugged case.

❖ Tactile PTT Buttons

There are many instances when operating the touchscreen of a smartphone might be difficult for workers. A construction worker on a site or a fire person about to rush into a building cannot easily stop to remove gear. Likewise, a first responder calling for backup or a manager on the floor of a manufacturing plant who encounters an emergency situation cannot waste time navigating through smartphone menus to open an app.



Rugged phones offer tactile PTT buttons. Often, they have an orange button on the side for push-to-talk, and a red button either on the side or on top of the phone for emergencies.

💡 Pro Tip:

No need to open your smartphone to talk. Tactile PTT buttons emulate the walkie talkie experience.

The red button can be linked to Zello's Emergency Alert feature, which, when triggered, will automatically record audio and send

coordinates and an address if it can resolve one.

⚡ Long Battery Life

The last thing a frontline worker needs in an urgent situation is to pull out their phone and find themselves unable to make a critical call due to a depleted battery. The same is true for construction workers who are out in the field all day, hospital workers on a long shift, and retail and hospitality employees who are moving from place to place without the time to stop and plug their phones in to recharge. Lengthy battery life is key to a good rugged device. Whether they rely on multi-shift technology or just bigger batteries, a good phone will provide nearly a full day of service without needing to be recharged.

⚡ Smartphone vs. Flip Phone

Today's rugged smartphones can take a beating while still offering the full range of smartphone features that a consumer device would.

However, some customers prefer the flip phone experience they're used to, and find it easier to trust in a flip phone's durability. Rugged flip phones offer many of the features available in a smartphone. Therefore, if a workforce is entrenched with and prefers flip phones, to encourage adoption, those making technology purchasing decisions may want to consider these devices rather than more advanced smartphones.

Additional rugged nice-to-have:

A respectable Non-Incendive rating.

The circuits of a non-incendive device are intrinsically safe, which means they are incapable of producing sparks or heat that, no matter how seemingly fractional, can spark a fire. As such, this is a critical rating to have in some use cases, such as for fire personnel, for construction and manufacturing workers operating near flames, and so forth across hazardous work environments.

Class I Non-Incendive ratings relate to gases, vapors, and liquids, while Class II relates to combustible dust, and Class III relates to fibers and flyings. Division I is a subset of this. It means that these things can be present in everyday working conditions and not cause an issue for a phone. If a device is rated Class I, II, and III and is Division I, it means that gases, vapors, liquids, combustible dust, and fibers and flyings can be present in the everyday work environment and the device will not spark a fire.

For those operating within the European Union, devices must follow the [ATEX directive](#), which establishes standards for equipment used in explosive atmospheres.

Our Top Rugged Phone Recommendations

☼ Sonim

The **Sonim XP5** and **XP8** are rated IP68 Non-Incendive Class I, II & III Div 2, and are MIL-STD-810G. The XP8 is additionally rated IP69. Both phones operate on Android, as do the majority of phones on this list. Their patented Extremely Loud and Clear Audio offers noise cancellation. The 4900mAh multi-shift, removable lithium ion battery on the XP8 and the 3180mAh battery on the XP5 both provide nearly a day of talk time, so workers won't have to recharge out in the field. The XP5 features an emergency SOS button and a PTT button, and is designed to closely mimic a walkie talkie experience. The XP8 feels more like a blend between a standard smartphone and a walkie talkie. In addition to the SOS button, it has two programmable PTT buttons.

Some of our customers prefer the sturdiness of a flip phone over that of a smartphone. For that the Sonim **XP3** makes a solid option. It offers a 1500mAh battery, is IP68 rated, and provides noise cancelation. The large PTT button makes navigating with gloves on intuitive.



Why we recommend these devices:

Sonim is a recognized leader in rugged devices. We strongly recommend these phones for construction, manufacturing, transportation, and other loud environments.

⚡ Kyocera DuraForce

Kyocera DuraForce phones are MIL-STD-810G and are IP68 certified dust- and waterproof, so they can take a hit. The **XD** offers 23 hours of talk time and 34 days of standby time; however, in practice we recommend bringing a spare battery for the most intense use. It is also OSHA-certified for non-incendive use. Its extra loud speakers ensure a high quality listening experience even in the noisiest environments.

For a flip phone option, the Kyocera **DuraXV LTE** offers dual mic noise cancellation, front dual speakers, and large tactile and programmable PTT buttons. It is suitable for use in hazardous environments and is Non-Incendive Class 1, Division 2. It is IP68 and MIL-STD-810G rated. It can go 8 hours before it needs a charge.

Why we recommend these devices:

The Kyocera XD offers a high quality solution at a slightly lower price tag that is right for many of our customers. It's also a relatively light option for those looking for a lower profile. The DuraXV LTE is a solid flip phone choice across all industries.



⚙️ RugGear

RugGear phones were designed with push-to-talk in mind. We recommend both the **RG650** and the **RG725**. The RG650 has a sleeker profile, closer to that of a consumer grade phone, while its edge-to-edge screen offers an immersive experience. It is rated IP68. The display is specifically designed for outdoor use. It operates on Android and offers crystal clear audio, a solid on-board camera, and a 4200mAh battery.

The RG725 looks and feels closer to a traditional walkie talkie, with a larger, more prominent PTT button. It has a very bright flashlight and can go 22 hours before it needs a recharge. The battery is easily replaceable: a good feature for those expecting to put a lot of strain on it. Advanced smart audio technology allows for loud projection even in the noisiest environments.

Why we recommend these devices:

The low price point makes RugGear phones the right option for many of our customers. The RG725 is a particularly good fit for construction sites and manufacturing plants, and for those looking to most closely emulate a walkie talkie experience.



⚡ CAT

CAT phones are IP68 and MIL-STD-810G, featuring Corning Gorilla Glass, which is famous in the industry for being shatterproof. We recommend the S61 for the most rugged use, as it is additionally IP69K rated.

The 4500mAh non-removable lithium ion battery offers 35 hours of talk-time. Unique to this phone, a thermal imaging camera and a laser-assisted distance measurement feature eliminate the need to tote along extra equipment to job sites. Also onboard, an internal air quality sensor will prove useful for those who work in hazardous environments.



Why we recommend these devices:

The measurement and air quality features of the S61 make this a solid option for those working in the manufacturing, production, construction, and logistics industries.

⚡ Spectralink

Spectralink Varsity 95 and 96 phones marry a slim profile with IP68 durability. They are waterproof and dustproof, featuring a Gorilla Glass screen.

They offer high sound quality, including both echo cancellation and noise suppression. These phones are particularly popular in healthcare settings, as they can be easily wiped down without damaging the phone.

Why we recommend these devices:

Spectralink is a trusted brand within the healthcare industry. They are the right fit for those looking for easy ways to keep their devices sterile as they bring them into critical environments.



In Short

Whether your team operates out in the field, on the factory floor, in a hospital, from the cab of a truck, or in the back of a store, rugged phones empower your workforce to take full advantage of the crystal clear communications Zello offers, without risking disruption due to device damage.

If you're just getting started with Zello, check out our setup guide [here](#). And if you have more questions, we are always [happy to help!](#)

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