

## Why Go Rugged? The Essential Insider's Guide



### What is Rugged?

Panasonic rugged notebooks out-perform the competition by offering features and advantages not available on consumer grade products. Engineered with enterprise-grade security to withstand drops, spills, dust and grime, shocks, as well as extreme temperatures the rugged range is for the user who demands more. Combining rugged reliability with a low cost of ownership, Panasonic leads the industry in building the platform for today's toughest users.

### Why Do We Build Rugged?

At Panasonic we constantly innovate, moving forward into an environment where the elements are overcome with our rugged line-up.

*We build rugged for one purpose:  
to help you accomplish yours.*

# TOUGHBOOK

Consumer  
PC

Semi-Rugged

Fully  
Rugged

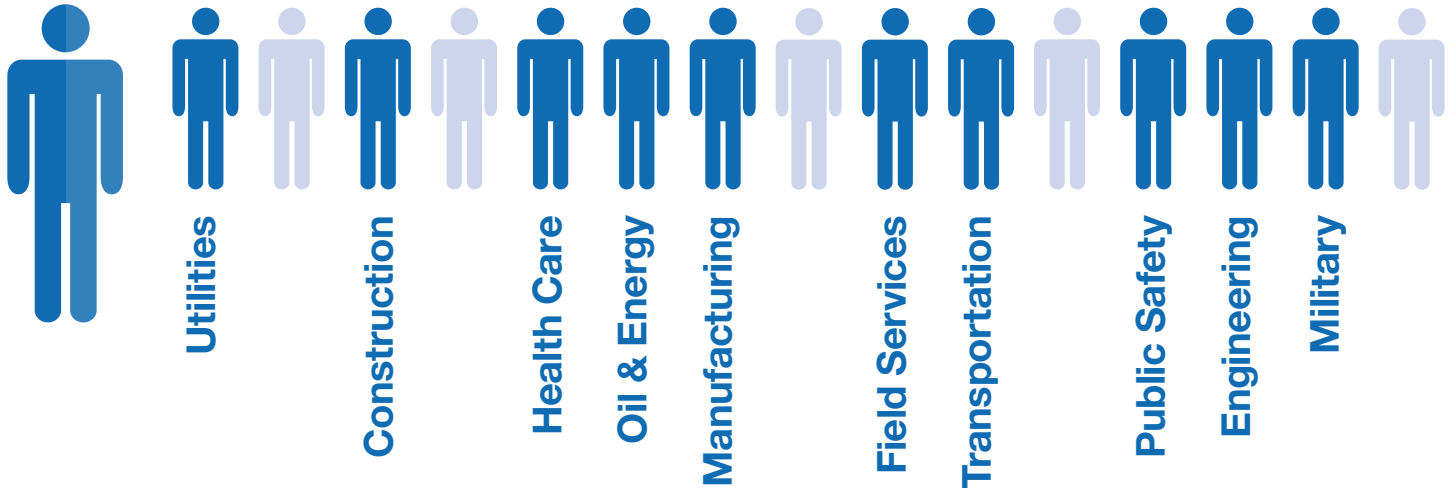
- Mostly used indoors, for at home entertainment purposes or office type work environments
- Designed to be kept clean, and will most likely damage in the occurrence of spills, drops, shocks
- Ideal for use in controlled indoor temperatures, will not work in extreme cold or heat

- Glare free and anti-reflective screen perfect for working outdoors
- Dust, dirt and spill proof
- Handles drops up to 3'
- -10°C to +50°C
- 11 hours of battery life with hot swappable second battery

- Military grade spec, used in the harshest working conditions around the world
- Handles drops up to 6'
- -29°C to +60°C



# Who Uses Rugged?



## Built for *You*



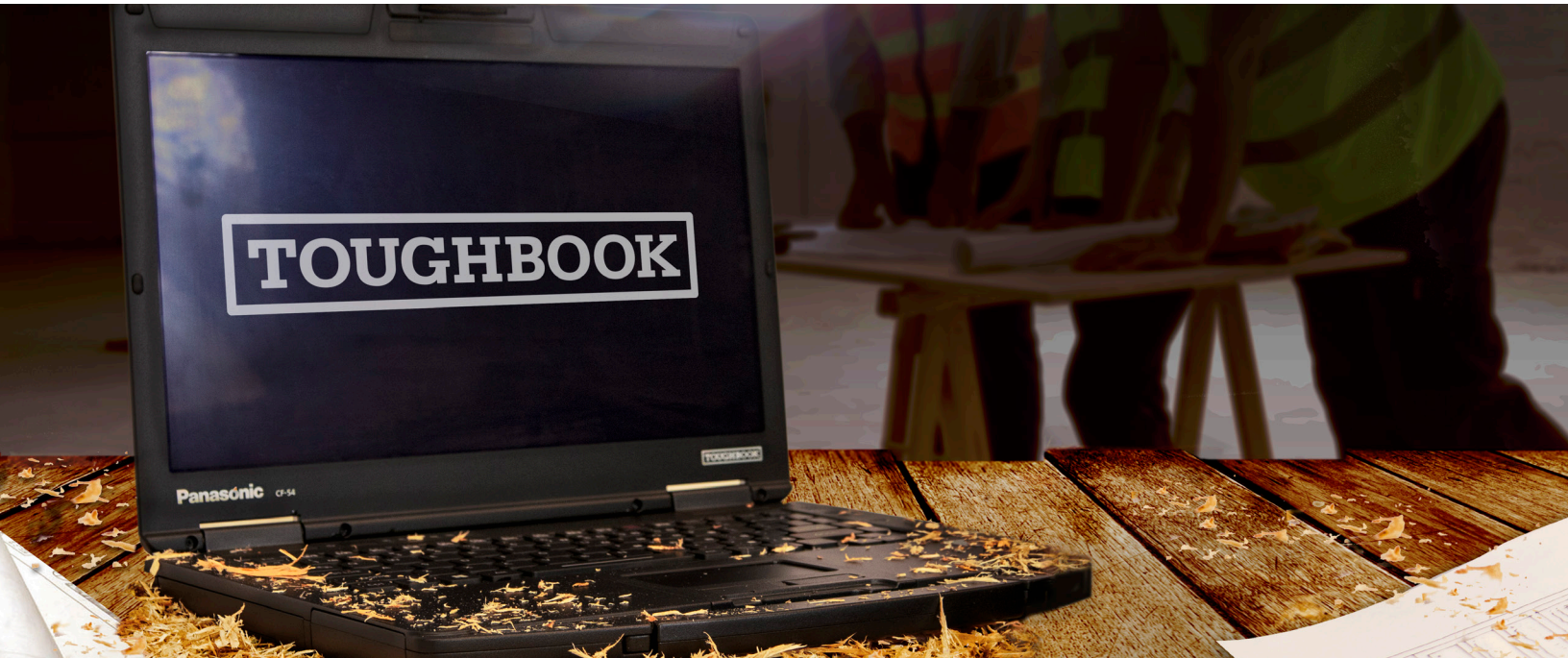
Rugged is built to perform in the most demanding of circumstances: ***Yours.*** Whether you are a ***an independent contractor*** tackling the latest home renovation or a ***full time commercial contractor,*** the Panasonic Toughbook CF-54 is ready to help.



# Panasonic Toughbook CF-54



Designed, Tested and Built to Last



As the **only** major manufacturer that designs, builds and tests our laptops and most components in our factory we are able to control quality, consistency, and parts availability at every step of the way ensuring ***the best possible product is created as a result.***

In 1962, the U.S. Department of Defense (DoD) developed a series of tests, called MIL-STD-810G specifications (Mil-Spec), used to validate the level of ruggedization in a piece of technology. Rather than a single test, these Military standards include dozens of tests with strict parameters used to simulate how a mobile device will operate under a variety of stressors and environmental conditions. Once a device passes MIL-STD-810G specifications, they are approved for use by all departments and agencies of the United States DoD.

Over the years these tests have been revised to reflect the ever-changing conditions and needs of military personnel. Due to the variance of tests performed under the MIL-STD-810G scope, it has become a common benchmark across the industry in validating whether or not a device can be considered "rugged."

Panasonic goes above and beyond by having all of it's "rugged" and "semi-rugged" products like the CF-54 Toughbook thoroughly tested to be up to MIL-STD-810G spec by the Southwest Research Institute (SWRI). This comprehensive third party validation of all Mil-Spec claims ensures that the Panasonic Toughbook CF-54 delivers on all of it's claims.





# MIL-Spec Testing: SHOCK



## *MIL-STD-810G Method 516.6 Procedure IV*

**What is it?** A device is dropped from various heights at 26 different angles (every edge, corner and side) onto 2-inch thick plywood over steel plate on concrete. The height at which the unit will still turn on and operate, generally between 12 and 72 inches, is the rated drop specification.

**Why does it matter?** Drops are one of the most common causes of damage to business mobile devices and given their often non-traditional working environments, mobile workers are more likely to drop their computers during the course of their day than an office worker.

**Question to ask:** While MIL-STD-810G specifications allow for companies to use up to five devices to pass drop testing, Panasonic conducts all tests on the same unit to mirror our users' true working conditions. Does your device's manufacturer do the same? How many devices did it take to pass? At what height was the unit tested?

## *MIL-STD-810G Method 514.6 Procedure I*

**What is it?** This test simulates the vibrations typically experienced in an off road vehicle or even helicopter mounted environment.

**Why does it matter?** Personnel who use devices in-vehicle, or workers conducting business on the road, need a reliable device to function in their everyday work environment. Mobile devices experience heavy vibration when mounted in jeeps, tanks or trucks; or in the public safety market, mounted in patrol cars, fire engines, ambulances and even helicopters.

**Question to ask:** Was the device operating during the test? Was it mounted during testing as it actually would be in use? Ask about the specific conditions and duration of testing to ensure they mirror the types of environments your workers will face in the field. Also, ask what parameters the manufacturer set for the test conditions. This could be anything from simulating gentle driving on paved surfaces to a rocket launch.

## *MIL-STD-810G Method 510.5 Procedure I*

**What is it?** Dust then sand is blown at a device over several hours in an environment of 140°F while operational.

**Why does it matter?** This test simulates situations like desert sandstorms or environments where unsealed devices, and those with fans, can have internal components exposed and damaged due to contaminants.

**Question to ask:** Ask for details about how the test was performed, to ensure the test is reflective of the environment your workers may find themselves needing to operate in. Factories, mills and mines can have these types of conditions as much as outdoor environments can.

We are so confident in our rugged products that we have some of ***the lowest failures rates in the industry*** backed by one of the leading warranties.



## ADVANTAGES

UNIQUE TO PANASONIC

Our rugged computers average better than 20% lower total cost of ownership over five years

3-year limited international warranty with a bilingual nation wide technical support hotline

Industry benchmark turnaround time on repairs and in-warranty parts replacements including no-charge shipping



### TOP REASONS TO GO RUGGED

- Never having to shade your screen from sun/light
- Not having to worry about spills such as coffee, water
- Staying powered up constantly with hot-swappable batteries means not looking for power outlets on the go
- Knowing your data and notebook are safe with its drop rating of 3' honeycomb magnesium alloy case and shock proof hard drive
- Comfort of working in any temperature condition: the rugged notebook will power up in heat up to 50°C and cold drops of -10°C
- Peace of mind that comes with industry leading 3 year warranty
- Ease of portability in taking your notebook anywhere, with its light weight and built in handle the Toughbook CF-54 is ready to go
- Seamless working transition between digital and physical environments with its glove capable touch screen and the latest Windows operating system





# What Should I Expect from Going Rugged?

Today's fast-paced digital climate enhances our demands from notebooks like never before. By virtue of being carried almost everywhere, we have elevated our own expectations for notebooks simply by integrating them seamlessly into our lives whether at work or for leisure. In the past, sacrifices were often made in favour of one performance feature over another, style over security or performance over durability. With Panasonic rugged devices and the semi-rugged Toughbook CF-54 these sacrifices are no more. Expect everything.



**Panasonic** BUSINESS



WELCOME TO *THE FUTURE.*  
WELCOME TO *PANASONIC RUGGED.*



# TESTIMONIALS

## Enersource Hydro Mississauga

“We have chosen Panasonic Toughbooks over other brands of notebooks because of their ruggedness, reliability, sunlight viewable screen and of course their service is second to none.”

**Danny Chu**

**Years with Panasonic:** 18

**Title:** Technical Service Analyst

**Industry:** Utility

## City of Mississauga

“We’ve been working with Panasonic for 4 years for all our rugged computing needs. Our operational technicians use Panasonic Toughbook CF-H2s and FZ-G1s in-field for asset inventories, status condition and deficiency logging and can count on their durability, extended battery life, and portability.”

**David Marion**

**Years with Panasonic:** 4

**Title:** Manager

**Industry:** Municipal Government

## Vancouver Police Department

“As one of the first Public Safety agencies to deploy an in-vehicle Toughbook wireless mobile solution we’ve been working with Panasonic for 14 years for all our rugged computing needs. Our front line officers use Panasonic CF-31 Toughbook’s in the field and can count on their durability, extended battery life, and portability. No other wireless computer can perform like a Toughbook for our mission critical requirements.”

**Brad Brewer**

**Years with Panasonic:** 14

**Title:** Patrol Sergeant

**Industry:** Public Safety

**Panasonic** BUSINESS