CGOLDENWALL ZC3-A

CGOLDENWALL ZC3-A Concrete Rebound Tester Instruction Manual

Model: ZC3-A | Brand: CGOLDENWALL

1. Introduction

The CGOLDENWALL ZC3-A Concrete Rebound Tester is a precision instrument designed for non-destructive testing of concrete compressive strength. It provides a quick and easy method to assess the quality of concrete in various structures. This manual outlines the proper use, maintenance, and specifications of the device to ensure accurate and reliable measurements.

2. Product Overview and Features

The ZC3-A Concrete Rebound Tester is engineered for durability and accuracy, complying with international standards such as ASTM C805, ASTM D5873, EN 12504-2, EN 13791, JGJ/T 23, and JIS A 1155.

Key Features:

- **Certified Calibration:** Calibrated for a testing range of 10-60 MPa (1450.38-8702.26 psi).
- **Durable Construction:** Made entirely of stainless steel, ensuring no rust, high elasticity, and wear resistance.
- **Accurate Measurement:** Features a smooth pointer shaft with uniform friction for precise readings.
- **Easy to Read:** Clear pointer display for convenient data acquisition.

Product Components:

The complete package includes:

- 1 x N-type Concrete Rebound Hammer
- 1 x Grinding Stone
- 1 x Flip Extension Spring
- 1 x Buffer Spring
- 1 x Screwdriver
- 1 x Instruction Manual and Certificate

Image: The CGOLDENWALL ZC3-A Concrete Rebound Tester with its complete set of accessories, including the grinding stone, springs, screwdriver, and manual, all neatly organized in a protective carrying case.

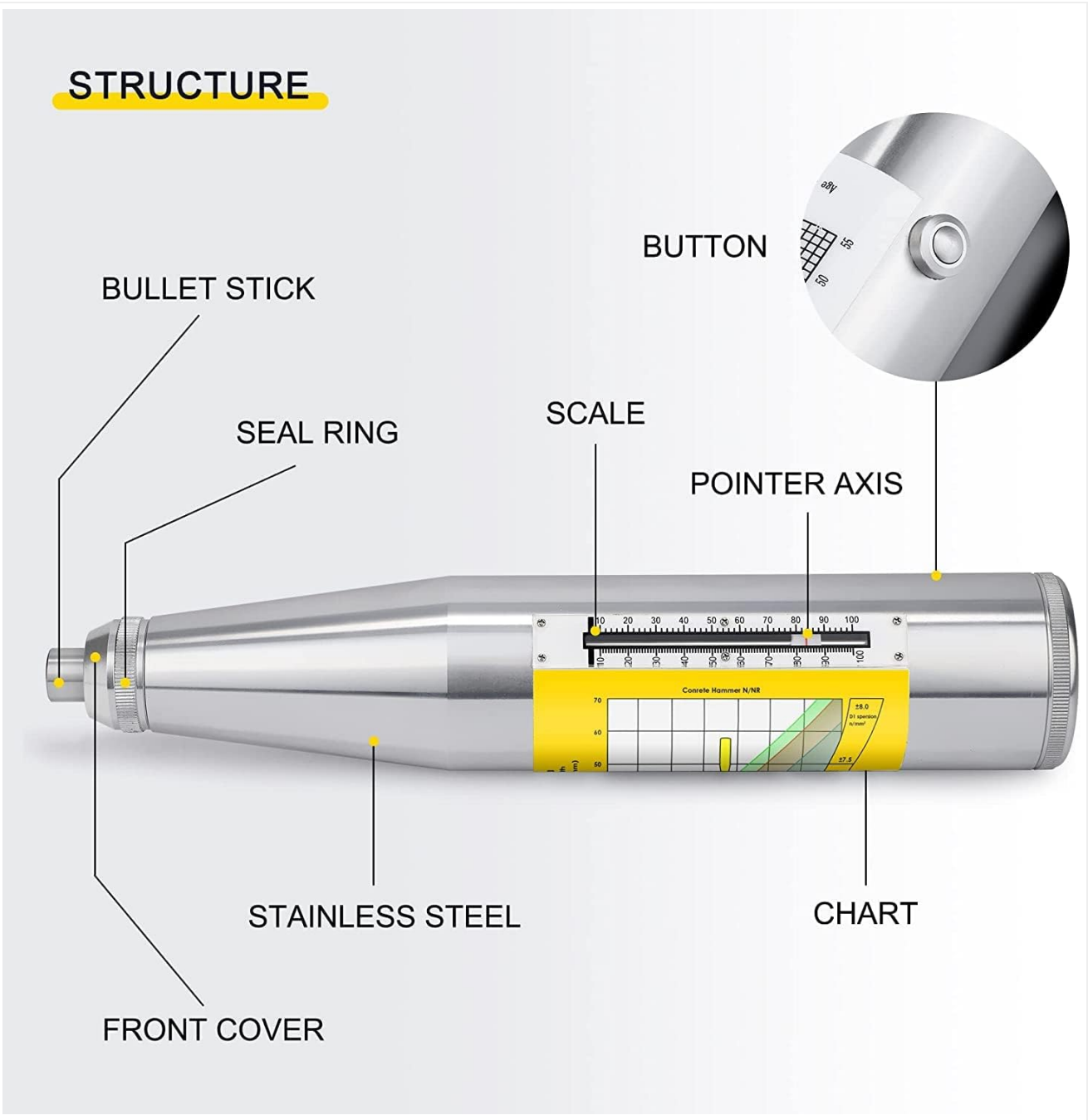

Image: Detailed diagram illustrating the structural components of the rebound tester, including the bullet stick, seal ring, scale, pointer axis, stainless steel body, front cover, button, and chart for reading measurements.

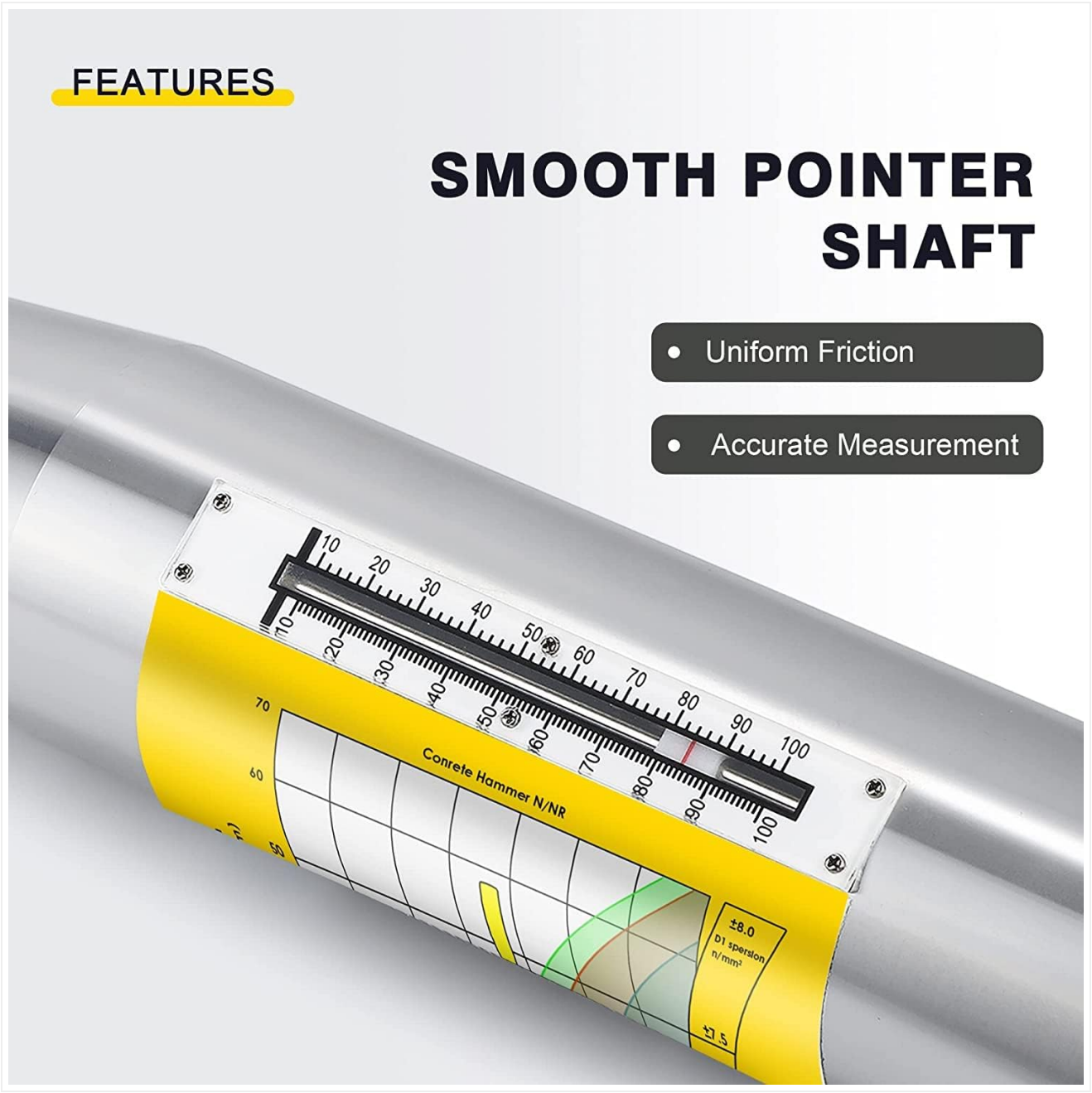

Image: A close-up view highlighting the smooth pointer shaft and the measurement scale, emphasizing uniform friction and accurate measurement capabilities.

3. Setup

Before first use, ensure all components are present and in good condition. The device is pre-calibrated, but regular checks with the included grinding stone are recommended to maintain accuracy.

Preparing the Tester:

1. Remove any protective adhesive tape from the button area.
2. Press the impact plunger gently to ensure it moves freely and the button pops out. Slowly release the plunger.
3. If the concrete surface is rough or uneven, use the included grinding stone to smooth a small area for testing.

4. Operating Instructions

Follow these steps for accurate concrete strength testing:

1. **Prepare the Plunger:** Tear off the adhesive tape and press the impact plunger to make the button pop out. Slowly release the impact plunger.
2. **Position the Tester:** Place the rebound hammer perpendicular to the concrete surface to be tested.
3. **Apply Pressure:** Slowly and evenly apply pressure to the tester until the plunger impacts the surface and a "bang" sound is heard. Keep the button pressed at this point.
4. **Read Rebound Value:** After the rebound, release the button once the hammer leaves the concrete surface. Read and record the rebound value indicated on the scale.
5. **Repeat Testing:** Repeat the above steps multiple times (e.g., 9-12 times) in different spots within the test area to obtain an average rebound value.

Image: A visual guide demonstrating the four key steps for operating the rebound tester, from preparing the plunger to reading the rebound value.

Using the Correction Coefficient Table:

For more accurate results, especially when dealing with carbonated concrete, refer to the carbonation depth correction table provided in the manual or on the device label. The unit labeled on the instrument is MPa (N/mm²), where 1 MPa = 145 psi.

Image: A table showing correction coefficients based on measured strength and carbonation depth (d in mm), used to adjust rebound values for improved accuracy.

Instructional Videos:

Video: Demonstrates the proper technique for using the concrete rebound tester, including preparation and measurement steps.

Video: A visual demonstration of rebound hammer testing, showing the device in action and how to obtain readings.

Video: Shows the NEWTRY concrete rebound hammer in use, providing a practical guide to its operation.

Video: An overview of the concrete rebound test hammer, demonstrating its functionality and ease of use.

5. Maintenance

Proper maintenance ensures the longevity and accuracy of your rebound tester.

- **Cleaning:** After each use, wipe the tester clean with a soft, dry cloth. Ensure no concrete dust or debris remains on the plunger or scale.

- **Storage:** Store the device in its protective case in a dry, cool environment, away from direct sunlight and extreme temperatures.
- **Grinding Stone:** Use the included grinding stone to periodically clean and smooth the plunger tip to maintain consistent impact.
- **Calibration Check:** Periodically check the calibration against a known standard or reference block to ensure continued accuracy.

6. Troubleshooting

If you encounter issues with your ZC3-A Concrete Rebound Tester, consider the following:

- **Inconsistent Readings:** Ensure the testing surface is smooth and clean. Verify the tester is held perpendicular to the surface. Check if the plunger tip is clean and not worn.
- **Plunger Not Rebounding:** Check for any obstructions or damage to the internal mechanism. Ensure the button is pressed correctly after impact.
- **Button Not Popping Out:** Ensure no debris is blocking the button mechanism. Gently press and release the plunger to free it.

For persistent issues, contact CGOLDENWALL customer support.

7. Specifications

Parameter	Value
Product Name	Concrete Rebound Tester
Product Model	ZC3-A
Nominal Kinetic Energy	2.207 J
Impact Length of Bounce Hammer	2.9 ± 0.03 inches
Friction of Pointer Slider	0.65 ± 0.15 N
Working Length of Bounce Hammer	2.4 ± 0.01 inches
Pointer Length	20.0 ± 0.2
Bounce Tension Spring Stiffness	785.0 ± 40 N/M
Fixed Value of Steel Anvil Rate	80 ± 2
Spherical Radius at the end of the bouncer	0.9 ± 0.03 inches
Decoupling Position of Bounce Hammer	Scale "100"
Power Hammer Take-off Position	Scale "0"
Measuring Range	10-60 MPa
Material	Metal (Stainless Steel)
Dimensions	32.99 x 20.8 x 10.49 cm; 2 kg (approx.)

PARAMETER

Product Name	Concrete rebound tester
Product Model	ZC3-A
Nominal Kinetic Energy	2207J
Impact Length of Bounce Hammer	2.9±0.03"inch
The Friction of Pointer Slider	0.65±0.15N
Working Length of Bounce Hammer	2.4±0.01"
Pointer Length	20.0±0.2
Bounce Tension Spring Stiffness	785.0±40N/M
Fixed Value of Steel Anvil Rate	80±2
Spherical Radius at the end of the bouncer	0.9±0.03"
Decoupling Position of Bounce Hammer	Scale "100"
Power Hammer Take-off Position	scale "0"
Measuring Range	10-60MPa

Image: A visual representation of the rebound tester's dimensions and a table detailing its technical parameters.

8. Applications

The CGOLDENWALL ZC3-A Concrete Rebound Tester is suitable for a wide range of applications in construction and civil engineering:

- House Inspection
- Highway Inspection
- Quality Inspection of concrete structures
- Bridge Inspection
- Cement Plant quality control
- General Construction Unit testing

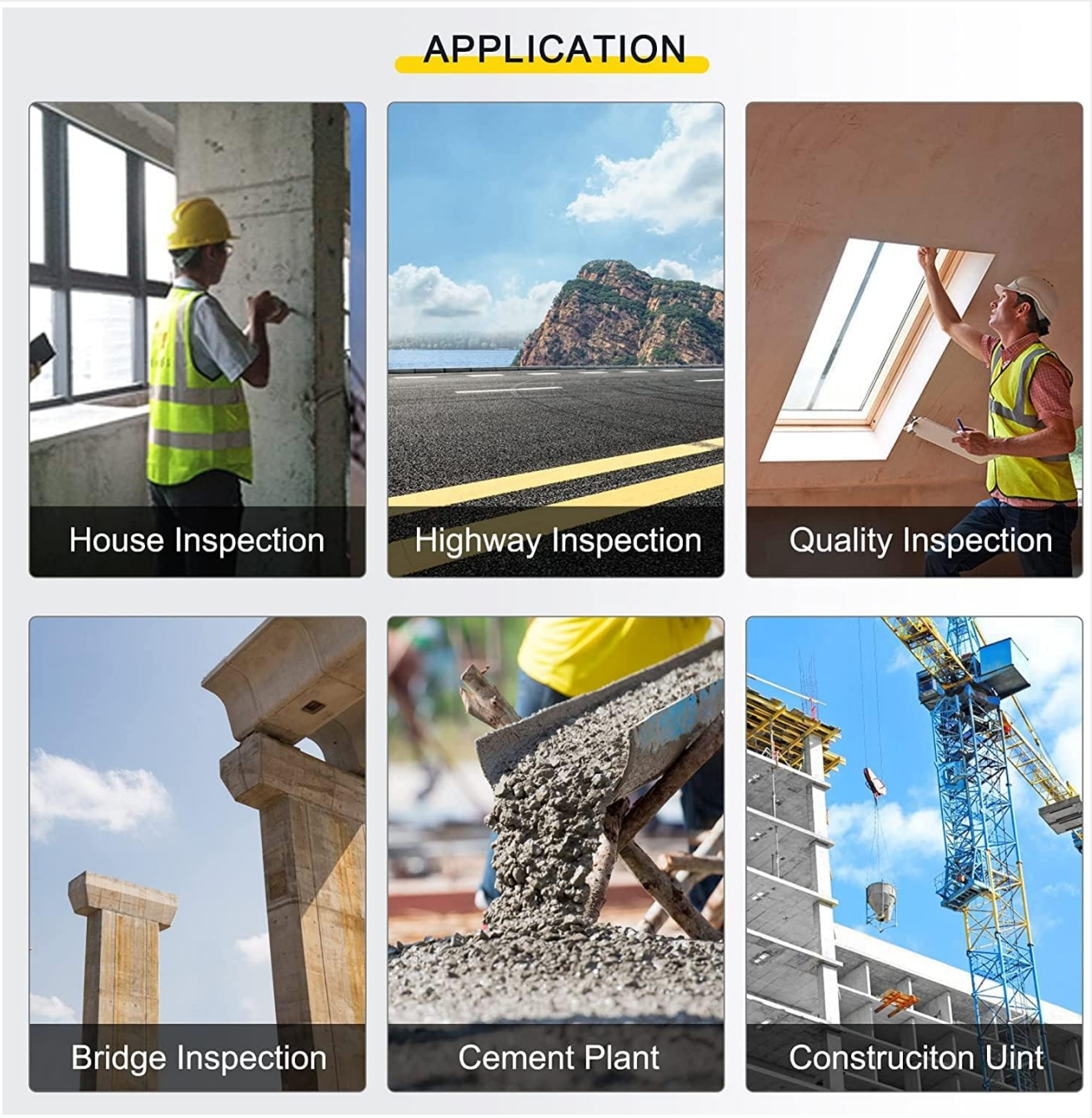

Image: A collage depicting the diverse applications of the concrete rebound tester in different construction environments, including buildings, highways, and bridges.

9. Safety Information

Always observe basic safety precautions when using the concrete rebound tester:

- Wear appropriate personal protective equipment (PPE), such as safety glasses and gloves, to prevent injury from concrete dust or debris.
- Ensure the testing area is clear of personnel and obstructions.
- Do not use the tester on unstable or damaged surfaces that could pose a safety risk.
- Keep the device away from children and unauthorized personnel.

10. Warranty and Support

CGOLDENWALL products are designed for quality and reliability. For warranty information, technical support, or service

inquiries, please refer to the contact details provided with your purchase or visit the official CGOLDENWALL website.

We are committed to providing professional operation explanations and support to every customer.