Gaotiejian

# GTJ-HT225 Integrated Schmidt Hammer

## Operation Manual

Beijing Gaotiejian Technology Development Co.,Ltd.

# Contents

# Chapter I Instrumental Function and Operation Instructions

## 1.1 Reference Standard

GTJ-HT225 Integrated Schmidt Hammer is manufactured according to Technical Specifications for Testing Compressive Strength of Concrete by Rebound Test JGJ/ T23-2011 and "Rebound Meter" GB9138-2015. It is used to test the compressive strength of ordinary concrete in engineering structure.

## 1.2 Instrument system composition and panel description

1.1.1 Instrument Composition: The complete set of instruments consists mainly of the main engine

1.2.2 Board Description:

- Turn on or off the instrument;
- Enter: Confirm selection or save settings, and confirm retesting;
- Return: Cancel the current operation or return to the previous interface;
- : cursor up or data, parameter increase;
- : cursor left shift or data, parameter reduction;
- : cursor right shift or data, parameter increase;
- : cursor down or data, parameter reduction;

Indicator light: Below , it is the Bluetooth connection indicator light (Bluetooth connection indicator light is always on. If the connection is cut, the indicator light is out). Below , it is charging indicator light (when charging, the indicator light is always on. When the charging is complete, the indicator light is out).

1.2.3 Side panels:

- Round socket: Connect earphone.
- SB socket: Connect the computer, test data and input it to the computer, and the charging socket.

## 1.3 Functions and Characteristics

GTJ-HT225 Integrated Schmidt Hammer is used to evaluate the compressive strength of hardened concrete in building structure.

It can set up the parameters carbonization depth, impact angle, impact test surface, and whether pumping based on the testing conditions on site. It can offer the result of strength estimation immediately after the test. The calculation process is totally based on JGJ/ T23-2011. Compared with the common rebound instrument at home and abroad, GTJ-HT225 has the following characteristics:

- Chinese character: All Chinese character display, and there are corresponding Chinese language tips and operation brief introduction on different interfaces.
- Digitalization: The rebounding value is displayed in the form of numbers and pointers, with consistent indication value.
- Automation: the parameters as the number of test areas, test direction, casting surface, pumping can be set and modified. After testing and computation a component test, it will transfer to the next test area at the same parameters, saving on-site manual records and improving the detection efficiency and timeliness.
- Accuracy: The calculated results are in accordance with the "Technical specification for testing compressive strength of concrete by rebound method" JGJ/ T23-2011 of the industry standard of the People's Republic of China.
- Convenient: Managing data and presuming strength according to the components, and can record the carbonization value on the spot.
- Voice: With voice reading function, and operators may also wear earphone for monitoring in busy surroundings.
- Non-wearing: (using MOS image sensor) electronic instrument metal plate not contacting the sensor and rebound meter, with no wear, thus extending the life of the sensor.
- Portability: Integrated design, small size, easy to carry.

## 1.4 Operating interface and functional description

### 1.4.1 Boot up and function

Press the boot button for a long time to turn on or turn off the instrument. When the instrument starts up, it will display the interface (as shown in Figure 1.1). After a few seconds, the instrument will automatically jump to the function selection interface (as shown in Figure 1.2). Press ▲ or ▼ to select functions.


Figure 1.1
Boot-up Interface


Figure 1.2
Functions Selection Interface

### 1.4.2 Rebound Test


Figure 1.3 Parameter Setting Interface

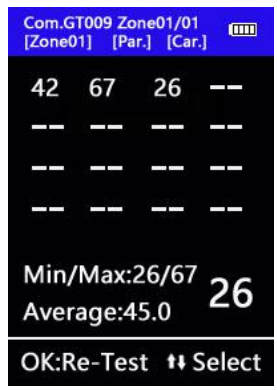



Figure 1.4 Rebound Test Interface

In the Function Selection Interface (Figure 1.2) press ▲ or ▼key to switch among functions. Select "Rebound Testing" to enter the Rebound Parameter Setting Interface (Figure 1.3). Press ▲ or ▼key to move the cursor to each parameter option. Press ◄ or ►key to modify parameter value according to field test condition (component number is the component number measured last time to add 1 automatically, to set new component number). Except measure area number and component number, other parameters can be set after the test process or after the test. If not set, the system will use default data for processing.

After setting the parameters, press Enter to enter the Rebound Data Acquisition Interface (Figure 1.4) and start the rebound test. When the data collected has an exception value, move the cursor ▲▼◄► to the abnormal data, press Enter for re-testing. After the re-test is complete, press Enter again for data replacement. After one test area is completed, it will automatically jump to the next test area until all the measuring areas are completed. In the Data Rebound Test Interface, press Return to enter the Exit Measurement prompt (Figure 1.5), Press Enter to exit the measurement. To continue the measurement, press Return.

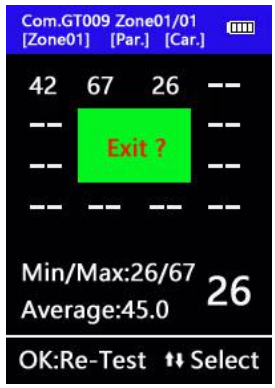



Figure 1.5
Exit Prompt

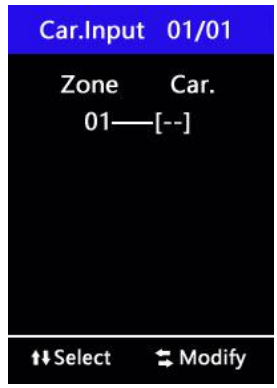



Figure 1.6
Carbonizaion Input Interface

When all the measuring areas of the current component are measured, it will automatically jump to the Carbonization Value Setting Interface (Figure 1.6), press ▲▼to select the measuring area to be set. Press◀ ▶ to modify the carbonization value. Press Enter and after setting the carbonization value, it will enter the Component Testing Result Interface (Figure 1.7). Press Return not to enter the carbonization value (default not to enter the carbonization value, which will be calculated according to 0), and it will enter the Component Test Result Interface (Figure 1.7).


Figure 1.7 Test Results Interface

When the measured data exceeds 16 (i.e. a measurement area), if the collected data is discontinued, the current measurement data of the component will be saved and the measurement can be completed next time. It has solved the influences of the external factors as the changed work plan or insufficient power volume.

### 1.4.3 Data View

In the function selection interface (Figure 1.2), press ▲▼ keys to switch between each function. Select "data view" to enter the Component Testing Result Interface (Figure 1.7). Press the key▲ ▼to switch the stored component and press Enter to enter the data interface in the area where the component is to be viewed (Figure 1.8).


Figure 1.8 Survey Area Data Interface

On this interface, when the cursor is in the "survey area XX", press ▲▼ keys to view the rebound data of other measured areas. When the cursor is in the "parameter" and "carbonization", press Enter to enter the setting interface of the component parameters (Figure 1.3) and the Test Zone Carbonization (Figure 1.6), and modify the parameters of the component and carbonization value of the testing zone.
To print data, select Print on the interface (Figure 1.7) (only the instrument with printing function has this function). Press Enter to enter the Data Printing Interface (Figure 1.9), then turn on the printer, press ▲▼ key to select the component to print. Press Enter to start printing the selected component data. After the printing is complete, the interface is shown as follows (Figure 1.10). Press ▲▼ to continue selecting the component data to print.


Figure 1.9 Data Printing Interface


Figure 1.10 The Interface of Printing Completion

### 1.4.4 Data Deletion

To clear the data in the instrument, select the "data deletion" at the functional interface (Figure 1.2) and enter the data deletion interface (Figure 1.11). Press Enter to delete, then all the component data could be deleted. When the progress bar is complete (Figure 1.12), the data is deleted and automatically jump to the functional interface (Figure 1.2).


Figure 1.11 Data Deletion Interface

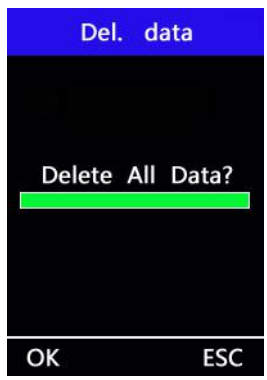



Figure 1.12 Deletion Complete Interface

* Note: To save the data, please upload the data to the computer before the data is deleted, because it will not be recovered after the data is deleted!

### 1.4.5 Data Transmission

It is recommended that data should be transmitted to the computer in a timely manner after each test or when more than 600 components are stored in the instrument. The operation method is as follows:

1. Connect the instrument to the PC using the USB data cable.
2. Open the Gaotiejian Concrete Testing and Analysis Software on the PC.
3. Click System-Read the data or Read the data in the toolbar.
4. Select the serial port (not the COM port of COM1).
5. Turn on the power to the instrument.

6. In the function selection interface (Figure 1.2), select the "data transmission" to enter the transmission interface (Figure 1.13).
7. Click Select Files in the PC software, name it, and click the Start button.
8. Send Determined to Send on the instrument (Figure 1.13)
9. Wait until the data transfer is complete (Figure 1.14).


Figure 1.13


Figure 1.14

In particular, it is important to note that:
(1) It is necessary to open the Data Transmission Interface in PC software in advance and select the serial port for transmission before connecting the instrument for transmission.
(2) The user, when transmitting with a USB data cable, shall install the driver first (there is an installer attached to the CD, and the user only needs to install the driver at the first transmission time. The driver is not required to be installed when the user transmits the data in addition to reinstalling the system later). The first time when connecting it to the PC, tips will prompt, and the user only need to follow the tips.

### 1.4.6 System Parameters

In the first use of the instrument, choose from the Function Selection Interface (Figure 1.2) to enter the System Parameter Setting Interface (Figure 1.15), set some parameters of the system, press Enter, the setting will be completed and saved.


Figure 1.15
System Parameter Interface

The upper and lower limits of the rebound value are set. If the rebound value exceeds the upper and lower limits set, the instrument will not record the rebound value when the rebound value is less than the lower limit, and the "minimum" will prompt (Figure 1.16). It will not record the rebound value when the rebound value is greater than the upper limit, and "maximum" will prompt. (Figure 1.17)

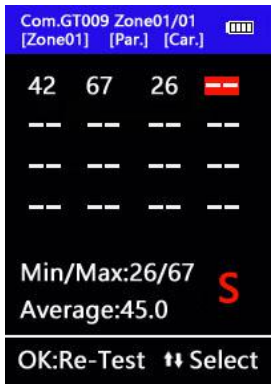



Figure 1.16
Tips Interface

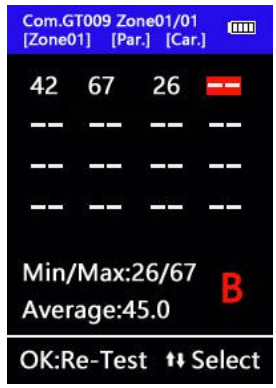



Figure 1.17
Tips Interface

After setting the standby time in the Shutdown Option, it will enter the automatic shutdown status.

### 1.4.7 Instrument Configuration

In the function selection interface (Figure 1.2) press ▲ ▼ to switch between each function. Select "instrument configuration" to enter the Setting Selection Interface (Figure 1.18). The total number of strikes will be recorded on this interface.

When the pointer value and rebound value of the instrument are inconsistent, the instrument can be calibrated by "Digital Display Correction", and the correction value can be set on the digital display correction interface (Figure 1.19). The correction value is calculated by: pointer value-digital display value = correction value (Example: the pointer value is 63, the digital display value is 60, then the correction value you set should be = 63-60, that is, set a correction value of 3).


Figure 1.18 Instrument
Configuration Interface

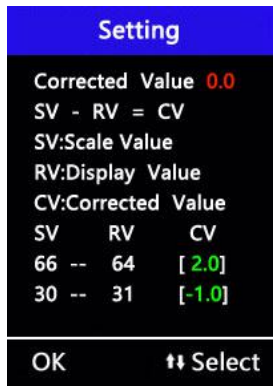



Figure 1.19 Digital Display
Correction Display

On the "print settings" option, the user can set the address of the printer you want to bind (only the device with printing function has this function, as shown in Figure 1.20), to facilitate printing. With once setting, it can be saved. The user may not use the printing function every time for setting again (* if the printer is replaced, the address needs to be reset).


Figure 1.20 Printer Setup Interface

### 1.4.8 Shut Down

To shut down the instrument after use, press ▲ ▼ to select between each function on the Function Selection Interface (Figure 1.2). Select “Shutdown” to shut down the instrument.

# Chapter II Calibration and Maintenance of The Instrument

In order to maintain the consistency and stability of the rebound instrument and improve the precision of the rebound method, the user shall check the technical status of the instrument regularly. The calibration of rebound meter is divided into general calibration and standard state correction. The former is frequent and the latter should not be carried out frequently.

## 2.1 General Rating

The calibration of the rebound instrument is carried out on the standard steel anvil, and the technical status of the instrument is generally checked by GZ16 steel anvil for the rebound instrument, which is called kinetic energy less than 2.207J. At the rate of timing, steel anvil should be placed on a rigid basis. The placement should be stable. And then rebound instrument impact rate determination in the steel anvil vertical down. The hand-holding posture should be the same to that on the concrete member test operation method. Steel anvil can also be pressed on the press calibration rebound meter. The hardness of steel anvil is HRC58-62 and the rebound value is R m = 80 ± 2. General rating check can be carried out in the impact of about 2000 once or every 3 months. For frequent testing or a large amount test, continuous testing for several days continuously. It can be daily after or before use. When there is doubt about the rebounding value in the test process, calibrate the rebound meter on the steel anvil.

## 2.2 Standard State Verification

The calibration and inspection of the standard state usually involve the change of the internal assembly relation or performance of the rebound tester, and the instrument should be checked and adjusted.
This verification should be carried out in one of the following cases.

1. The replacement of parts causes a change in the size of the instrument's internal assembly (the replacement of parts in the impact system and the value indicating system).
2. After long-term use (generally about one year), the parameters and performance of the instrument parts change, it can not guarantee the technical performance index of the whole machine.
3. The adjustment bolt on the tail cover is found to be loose.
4. Accumulated test times are more than 6000.
5. The instrument is struck violently (as by a fall in the air) or other damage.

For the unit or individual not familiar with the normal state of the rebound meter, they can send the instrument to test center (station) for verification and the standard state calibration.
Untrained personnel is generally not suitable for calibration of standard state for the rebound instrument alone. Therefore, the operation and procedures of calibrating the standard state are not described in detail in order to avoid any harmful effects.

## 2.3 Maintenance and Debugging

### 2.3.1 Maintenance of the Rebound Tester

To improve the test accuracy of the rebound method, in addition to the correct operation of the instrument and mastering the test technology, it is also an important aspect to keep the instrument in a good standard state.
In addition to the use and custody of specialized personnel, the following should be carried out:

1. The rebound meter should be put into the packing case or instrument box in time to prevent dust from entering into the instrument.
2. The instrument shall not be disassembled or tried at random, so as not to affect the service life and loss of accuracy.
3. The instrument should be regularly maintained. After the use of a certain time, it should be cleaned and purified, but the assembly relationship between the parts and the whole machine should not be changed.
4. The indicator system of the instrument, especially the pointer slider, should not be removed in general. The needle shaft shall not be allowed to apply grease to keep the friction constant.

### 2.3.2 Maintenance and commissioning of rebound tester

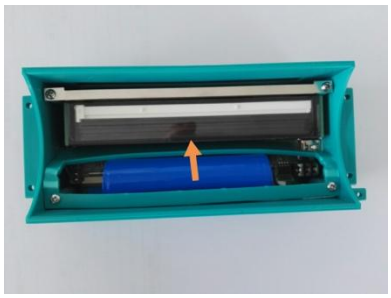
The rebound meter should be calibrated by steel anvil before the use. The calibration value is 80 ± 2.
Qualified instrument can be officially activated, and the non-qualified need to be properly adjusted. The following are the methods for debugging:

1. Maintenance is needed when the rebounding times exceed 2000.
2. When maintaining, it is necessary to open the back cover and the front screw cap, take out the center rod, wipe it and grease with one or two drops of superficial oil (sewing machine oil).

3. In the course of testing, if the rebound meter does not show the number occasionally or automatically, here is the solution:



(1) Wipe the surface of the image sensor with clean cotton cloth.




（2）The calibration surface of the rebound tester can't be directly directed against sunlight or strong light during testing.

# Chapter III Concrete Testing and Analysis Software

Gaotiejian Concrete Testing and Analysis Software is a rebound data analysis and processing software developed by Beijing Gaotiejian Technology Development Co., Ltd. for. It can operate on the computer installed with the Windows operating system.

The processing object of this software is the data file stored in "GTJ-HT225 Integrated Schmidt Hammer" (REC file) or the rebound value directly entered, which can calculate and process the test data according to a single component or batch. The software processing process conforms to the "Technical specification for testing compressive strength of concrete by rebounding method" of the People's Republic of China (JGJ/ T 23-2011) and "Rebound Meter" GB9138-2015. After the analysis and calculation, it not only can save or print out the analysis result, but also can generate the test report document in Microsoft Word format.

This software involves three different types of files, as shown in Table 3.1.

| Type | Extension name | Descriptions |
|---|---|---|
| data file | REC | GTJ-HT225 integrated rebound data processor data files. The single composition files after this software processes the data files (REC files) of the Integrated Schmidt Hammer. |
| Raw data file | GTJ | GTJ-HT225 mechanical original data file of Integrated Schmidt Hammer, including all component numbers. This is the original data, does not include the strength calculation result and the parameter setting which carries on later. |
| Test report file | DOC | A preliminary draft of a test report file generated by various analysis results. |

The installation process of this software is similar to that of common Windows software. This chapter will give a detailed introduction to the installation and pre-use of this software.

The installation steps are as follows:

Open the CD-ROM and copy the file named HT225 folder to the computer. Choose the storage path. Then open the installation package to drive the installation, and then install the rebound software

## 3.1 Installation of Driver

Please unzip and run the executable file directly

Right-click the computer properties to determine the computer operating system type. If it is a 64-bit operating system, select the "_x64.exe" suffix driver. If it is a 32-bit operating system, select the "_x86.exe" suffix to drive the installation. Install the driver before installing the software. If the computer is equipped with the same driver as this USB driver, prompts will show (as shown in Figure 3.1). To better use this instrument, please select "Reinstall (upgrade)". It is important to note that when transferring data, wait for the USB program to be installed and then connect the data cable to the computer for data transmission.

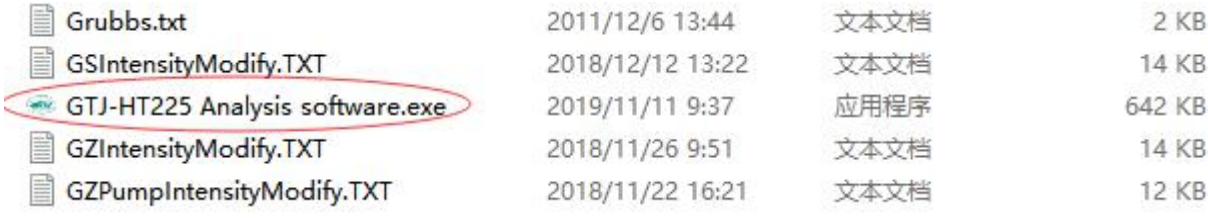



Figure 3.1

## 3.2 Installation of software

Select the package of the rebound software in the installation package, choose the file with the suffix of .exe, and install based on the prompts.

# Chapter IV Concrete Testing and Analysis Software -Basic Knowledge

## 4.1 Introduction to Software Interface

It is easy for users who are familiar with Windows operation to master the operation method and interface form of concrete compression strength testing software.

The software interface consists of seven parts (shown in Figure 4.1): title bar, menu bar, toolbar, status bar, data area, parameter setting area (control panel), data display area.

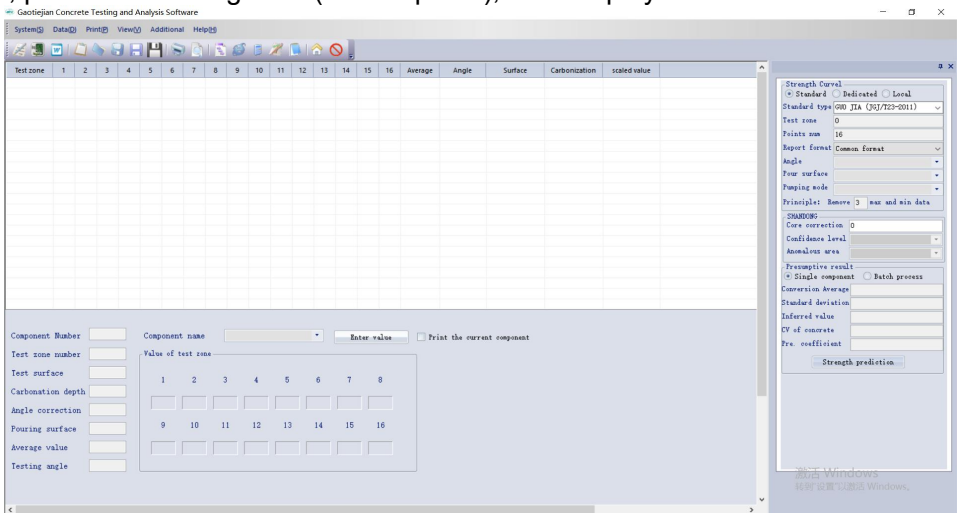



Figure 4.1 Software Main Interface

- The title bar displays the software icon from left to right, the currently processed file name, and three standard Windows application buttons. The three standard Windows application buttons are

---Minimization button□ Maximization button. ☒Program-close button.

- The menu bar consists of five drop-down menu items (shown in Figure 4.2), and a drop-down menu appears on each menu item, each with a corresponding set of functions. The sub-menu items of these 5 menu items contain all the functions of this software. This function is invalid in the current state when some menu item is in ash state.


Figure 4.2 Menu Bar

- The toolbar consists of a series of buttons (shown in Figure 4.3), each of which implements a common function. Although these commands are already included in the menu command, it is much more convenient for these common commands to do so through the toolbar button. If hovering the mouse over a button for a while, the function of the button will automatically be displayed on the screen. This function is invalid in the current state when the button color is in ash state.

Figure 4.3 Toolbar

- The data area is used to display test data, etc.
- The control panel is used to set and infer the parameters required to determine the strength of the component.
- Data display is used to display the area code selected by the current user

## 4.2 Menu commands

### 4.2.1 System Menu

1. Parameter setting: Input the basic situation of the component (as shown in Figure 4.4), and set the print parameters and print notes at the same time.

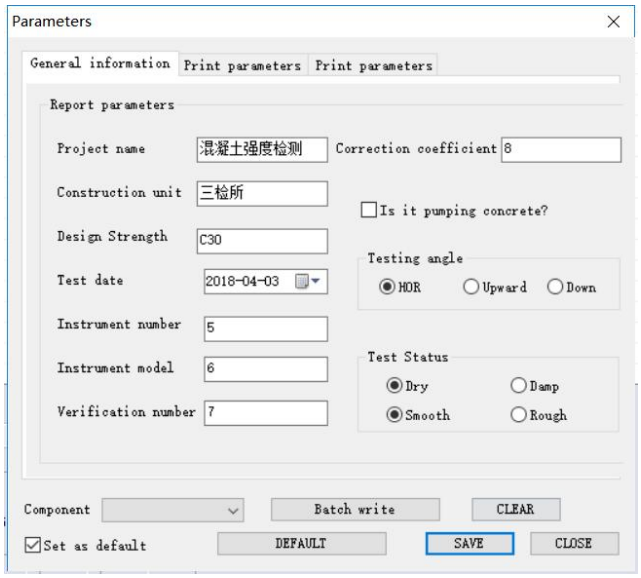



Figure 4.4 Parameter Setup Window

2. Strength curve library: including the standard curve, regional curve and professional curve. This software is pre-installed with the regulation curve and Beijing standard curve. The user can establish regional curve or special curve according to the actual needs (as shown in Figure 4.5):

Note: When you enter your own curve library, be sure to select the curve you want to use in the control panel. For example, if you enter a professional curvilinear library, be sure to select the "professional curve" item in the control panel when you use it. If you are using a built-in curvilinear library (e.g. national standard, Beijing standard), you need to select the "normal curve" item.

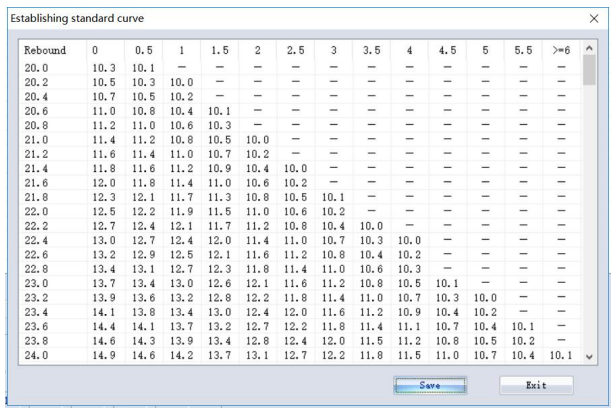



Figure 4.5 Curve-establishment Window

3. Read the data from the rebound meter: Upload the data from the hand-held part of the rebound meter into the software, calculate and print it. Before transmitting data, connect the computer to the "GTJ-HT225 Integrated Schmidt Hammer" using a USB cable.
4.

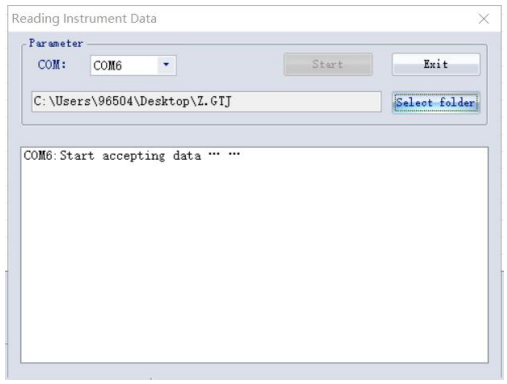



Figure 4.6. Reading-Instrument-Data Window

Then select the correct serial port and save the path and file name (the default save path is the "savedata" folder under the installation folder).Click to the start the transmission (Figure 4.6).

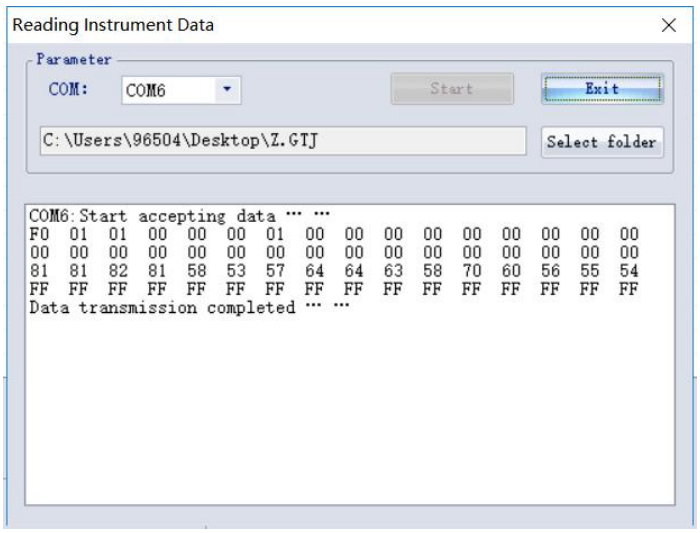



Figure 4.7 Transmission Complete Window

Window prompts "Start receiving data...". When the data transfer is completed, "The data transfer is complete..." prompt. At this point, click Exit, a prompt box (Figure 4.7) will display. When confirming the data transmission is complete, click OK, otherwise it will result in incomplete data. After clicking OK , the transmitted data will be displayed in the data area (as shown in Figure 5.1). The user may disconnect the instrument from the PC. (Note: The default save format extension at this point is called "GTJ", which is all the raw data and parameters that are transmitted at one time.)

When transmitting with USB, connect the USB transmission line to the USB port on the computer, and connect the other end of the transmission line to the "GTJ-HT225 Integrated Schmidt Hammer". Operate according to the operation sequence of serial port transmission, and the data transmission can be carried out.

5. Generate report: Generates the test report for the file open currently.
6. Set the component filename: You may rename all currently open artifacts (as shown in Figure 4.8).

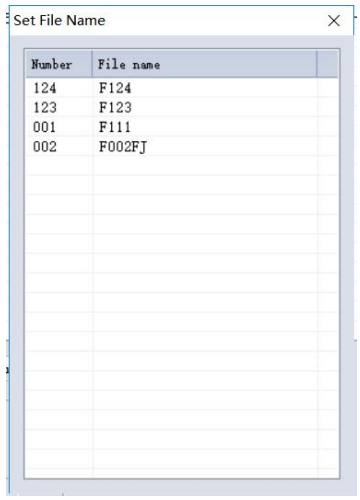



Figure 4.8 Modify Component File Name in Batch

Double-click the file that needs to change the file name and pop up the dialog box (Figure 4.9). To save the file and save the path selection, click Save at this time, to modify the file name, file path to save. When all is saved, close the dialog box shown in Figure 4.8 and display the changed filename in the drop-down menu (Figure 4.10).

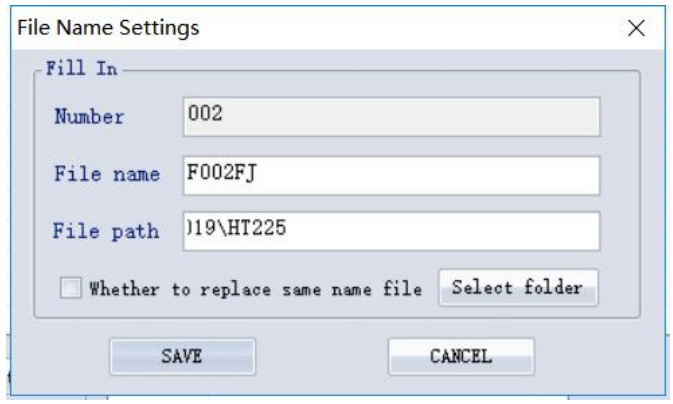



Figure 4.9 Component filename settings

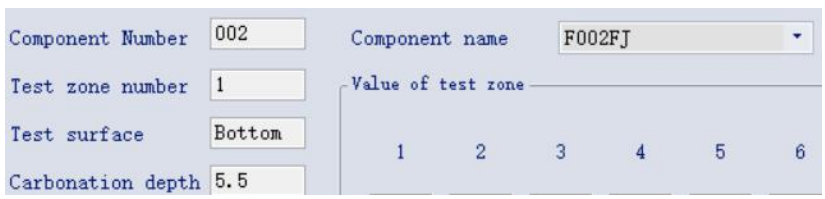



Figure 4.10

7. Exit: Exit this software. If the data is not saved before the exit, the file is prompted if it has not been saved.

### 4.2.2 Data Menu

1. New manual computing artifacts (new): Users can create new test data files. The parameters such as component number, measuring area number, angle correction, pouring surface correction and carbonization depth can be self-revised in the control panel area. The prerequisites for building artifacts pop up after you click on the new add-on manual count option (as shown in Figure 4.11).

Note: When adding a new component manually, the component number must be a number, not a Chinese character or other form of text.

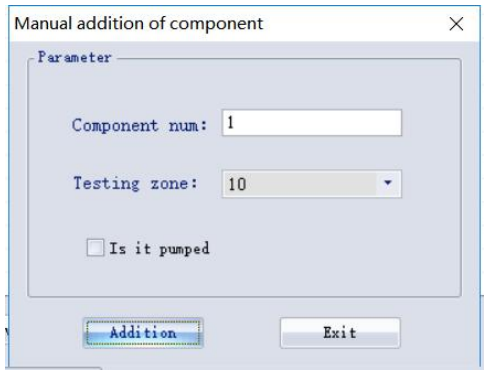



Figure 4.11 Rebound Data Input

Click Add, a data input and modification window (as shown in Figure 4.12) will pop up. Enter or modify data in this window. You may also double-click the data you need to modify in the data window, or select the data you need to modify by clicking Input Value button for data entry and modification. After the data input for one test zone, press Enter key to enter the next test area automatically. Press Exit to exit the window. After all test area data entry is completed, the basic parameters of the component must be determined and modified, which shall be completed in the control panel. All of the data entered by the component is automatically displayed in the data window (as shown in Figure 4.1). The input zone carbonization value should not exceed 6.0. If do not want to enter, choose a default value or input '-' in English input state.

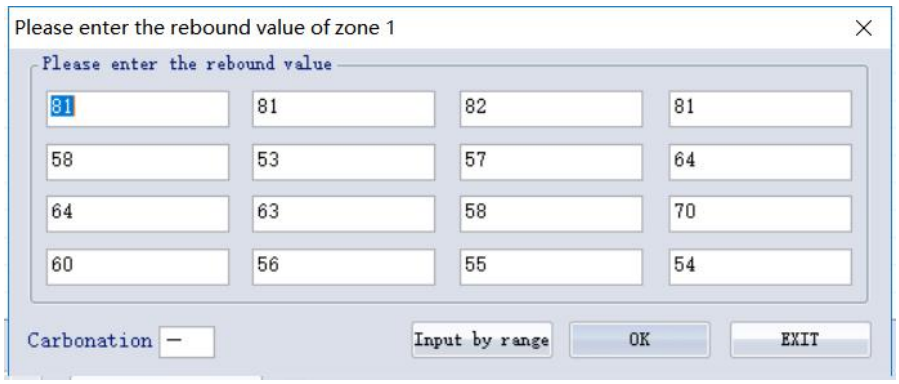



Figure 4.12 Rebound Data Input and Modification

Note: After the input, the entire component can be set up in the control panel for angle, test surface, pumping and so on.

2. Open file: Open the file to be processed or viewed, and its operation window (is shown in Figure 4.13).

This is a standard open file dialog box of Windows. Select the folder from the Searching Scope for the folder where you want to open the file. Under default situation, the open folder is the SaveData folder in the root directory. In the File Type, choose the type of file you want to open. Enter the file name in the "filename" box or select the file to open from the file list box. Press Open button to open the file. The system will do the corresponding operation according to the open file type. You can open the data file (REC file) for the analysis processing. You can also open the general file of the raw data (GTJ file) to view, manipulate, and save a single component.


Figure 4.13 The Window of Opening Data File

3. Save data: Save raw or modified data from a single component (REC file). After the current file (REC file) has been modified or the strength is calculated, the name of the address file appears on the top of the software and the "*" will prompt meaning that current file is not saved. Click Save Data, by default, it is to save data, parameters, and results under the current filename component.
4. Resave the component data as: You can save current open component data as needed.
5. Save all: Save the current component in batches (save the file in REC form). When the first uploaded data is saved, all the artifacts in the GTJ file are saved into a single component's REC file (as shown in Figure 4.14) with the default name "Component FXXX" as the file name. "XXX" is the component number in the uploaded data, that is, the component number set on the host during the test

When the REC file of a batch of individual components is opened, the strength of multiple components is calculated, and the parameters are modified to be saved by clicking on the whole, both can be saved. Be sure to select the "replace file of the same name" option at this point

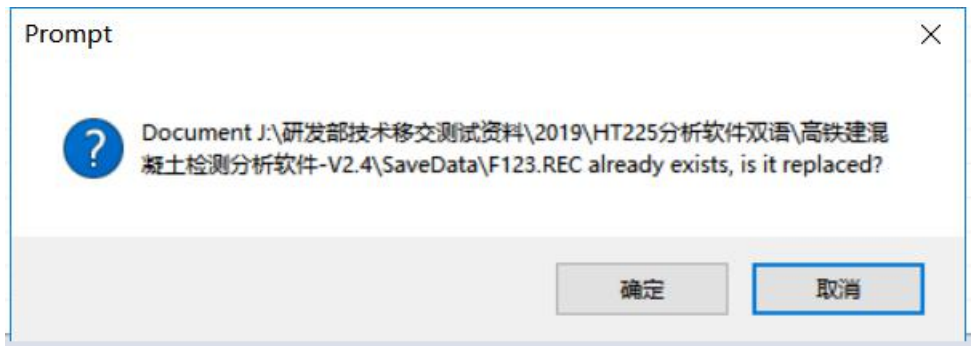



Figure 4.14 Save Components in Batches

### 4.2.3 Print

This menu includes options such as print, print settings, print preview, and so on. Print settings can be selected according to the need to print the parameters including printer model, paper size (optional A4, B5 paper), page number, and so on.

The report format can be selected in the control panel according to different reporting requirements, including ordinary format, Shanghai format, national standard format. Make sure to set the parameters in the parameter settings before printing, otherwise the print report is empty. When setting parameters, you can set only the parameters of the current component, and then select the print current component in the data area to preview and print the current component report. You can also select Save as Default Parameters to have the same print parameters for all current artifacts, which should be added by clicking on Filling in Batch.

After selecting the "Print Current Component" of the data display area, click Print, it will only print the results of the current component. The National Standard Report prints the results and basic information of all components currently open.

### 4.2.4 View Menu

1. Display or close the toolbar (as shown in Figure 4.15). It means to display this item only when there is a √ before, otherwise it means it is closed.

2.

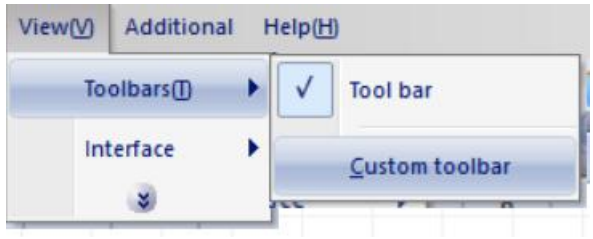



Figure 4.15 View Menu

3. Status Bar: The bottom of the software shows whether the software is ready, and time, etc.
4. Skin: Users may choose the style of the software interface according to their preferences.
5. Display Toolbar: The display or hiding of the control panel on the right.

### 4.2.5 Additional Function

Additional function menu includes company home page, calculator, drawing and Notepad and other commonly used tools.

### 4.2.6 Help

The help menu includes software usage instructions and software version instructions.

# Chapter V Application Cases

This software is mainly used with "GTJ-HT225 Integrated Schmidt Hammer" produced by our company. In order to make it easier for you to use the product, we hereby show you how the software works with an example.

## 5.1 Data transmission

The data transmission of "GTJ-HT225 Integrated Schmidt Hammer" is transmitted to a hard disk root directory of PC by GTJ-HT225, such as c:\ SaveDatat, according to the relevant section of "GTJ-HT225 Integrated Schmidt Hammer user manual" and the description of data transmission in chapter 3 of this manual. The incoming data is automatically saved according to the Rebound Data file in the "GTJ-HT225 Integrated Schmidt Hammer". The user need to select file name by him/herself. The extension name is ". GTJ", such as "1.GTJ". When saving a single component, the user may enter component name by him/herself, with the extension name of ". REC", such as "Floor 2. REC". The rebound data files generally include the following:

1. Component name
2. Testing area code
3. Angle correction
4. Casting surface correction
5. Pumping (non-pumping)
6. Depth of carbonization
7. Rebound data

After the transmission is completed, the software automatically saves the original data in a certain format. GTJ file.

Note: Do not use the same name when choosing the file name in selecting the Path, otherwise it will be overwritten by the data file being transferred. It is recommended that users change directory storage after data processing is complete.

## 5.2 Data Modification

Open the data file that needs to be processed, such as c:\ SaveDatat\1. GTJ or c:\ SaveDatat\Floor 2. REC file (shown in Figure 5.1) and modifies the parameters.

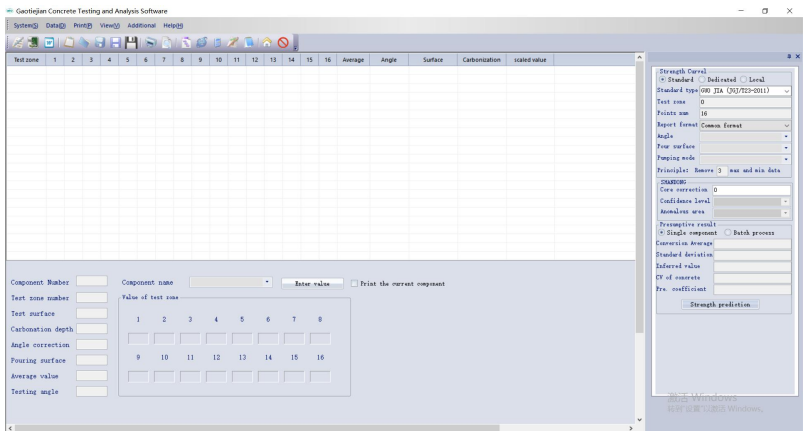


Figure 5.1 Open the data file

### 5.2.1 Modify the rebound or carbonization values

Double-click the rebound value of a test area that needs to be modified, and the Data Modification dialog box (as shown in Figure 5.2) pops up:

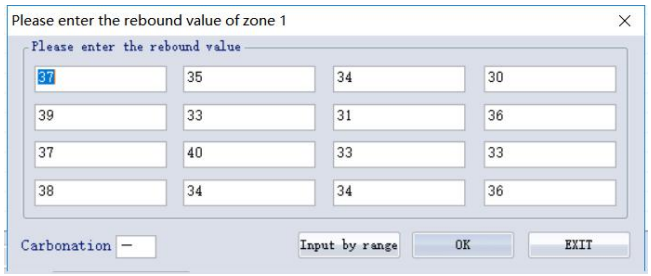


Figure 5.2 Input data

Enter the value you need to modify. Press Enter to complete the change.

### 5.2.2 Modify the Angle Correction Value, Casting Surface Correction Value

In the control panel of the interface (as shown in Figure 5.3), select the angle correction value, casting surface correction value, pumping mode needed. When selecting Beijing specification, the pumping way is default as pumping.

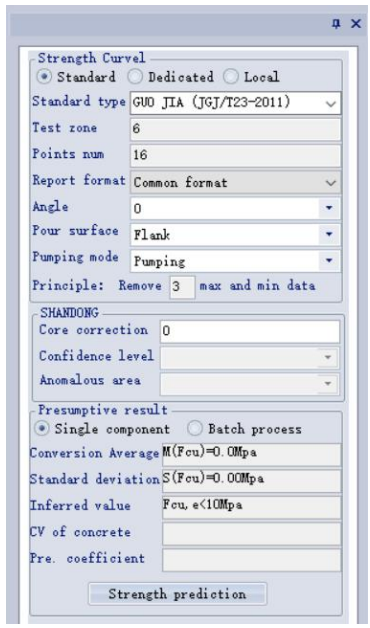


Figure 5.3 Parameter Settings

Note: Modify the angle correction value of all measuring areas of the current component, the casting surface correction value, the pumping mode. These will not affect other components. If other artifacts require the same modification, select the component data file that needs to be modified in the window menu, make it the current file, and repeat the above operation.

## 5.3 Data Processing

### 5.3.1 Processing Single Component

1. Firstly, open the data file to be processed (as shown in Figure 5.1).
2. Select a single component and set parameters in the control panel. Click on the Strength Calculation, the strength calculation results will show in the display area of the control panel.
3. After the calculation is completed, to save the result of the calculation, execute the Save Menu.

### 5.3.2 Batch (processing multiple components)

1. Firstly, open multiple artifacts, select multiple individual component files (REC) to be processed, or open a raw data file (GTJ), and then select Batch Processing, click on the Strength Calculation and pop up the prompt box (Figure 5.4). Select and add a component number that needs to be batched. There must be no less than 10 artifacts. When the batch component parameter is different or with the default parameter (the default parameter is the non-pumping concrete side level), it is not necessary to set the parameters for each component separately.

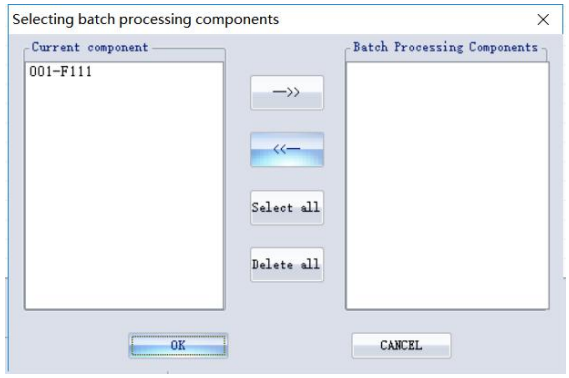


Figure 5.4. Select multiple data files

After selecting the file, click Enter, and the calculated results will be displayed in the control panel area.
Note: When calculating data processing strength (including all components during batch processing), make sure that the component already has a carbonized depth value. If no carbonization value is entered on the host, the data will be transmitted to the PC with the default that no calculation without carbonization value

## 5.4 Generate Word Report

After filling in the basic case of parameter settings, select System--Generating the Report button on the report or toolbar--and the word report will be generated.

## 5.5 Print Report

After generating the test report, you can edit, print and archive the report in WORD.

**TEL ： 0086 15613729299**
**URL.： www.gtj-test.com**