



GENERAL INFORMATION

SELECTION OF THE PROPER HEAT TREATMENT

The selection of the proper heat treatment is important in securing the longest life for bits, but it may require some trial and error to select the proper heat treatment for a particular application.

If your bits tend to get broken or chip-off, switch to a bit with less hardness. If your bits wore quickly, choose a harder bit. However, bits may often break or get worn due to various factors such as different operators, different torque values and different power tool settings.

VESSEL industrial bits are classified according to three main heat treatment classes; "X", "H" and "G".

APPLICATIONS HEAT TREATMENT CLASS	SCREWS TO BE FASTENED	TYPE OF WORK	TYPE OF FIELD
X HIGHEST HARDNESS HRC 62±1	HIGH-HARDNESS SCREWS SUCH AS TAP SCREWS, SELF-DRILLING TAP SCREWS	LIGHT & LOW TORQUE WORK BY TORQUE CONTROL AIR S/DRIVER, ELECTRIC S/DRIVER, AUTOMATIC SCREW FASTENING DEVICE, FOR EXAMPLE	AUTOMATIC ASSEMBLY OF PRECISE EQUIPMENT & AUDIO EQUIPMENT
H HIGH HARDNESS HRC 60±1	MEDIUM-HARD SCREWS SUCH AS TAP SCREWS	MEDIUM & LOW TORQUE WORK BY SPEED- REDUCING AIR S/DRIVERS & ELECTRIC S/DRIVER, FOR EXAMPLE	ASSEMBLY & DISASSEMBLY OF HOME ELECTRIC APPLIANCES & ASSEMBLY OF COMMUNICATION EQUIPMENT & AUDIO EQUIPMENT
G STANDARD HARDNESS HRC 57±1	STANDARD HARDNESS SCREWS SUCH AS SMALL MACHINE SCREWS & WOOD SCREWS	HEAVY DUTY WORK INCLUDING HIGH TORQUE & HIGH IMPACT APPLICATIONS, ESPECIALLY USEFUL WITH IMPACT TYPE AIR S/DRIVER	AUDIO PARTS, MACHINE PARTS, WOODEN MOULDINGS SUCH AS WINDOW DOOR SASHES & FURNITURE

In general, high torque applications require "G" hardness to withstand twisting and resist breakage. The "H" hardness is for medium torque applications, and this class is most common and should be selected for normal application. The "X" hardness is most suitable for low torque applications, particularly if hardened screws are used.

In addition to above three classes, low hardness "E" HRC 55±1 and lowest hardness "S" HRC 53±1 are also available for use in heavy duty work where high impact is anticipated.

Dimensions and specifications are subject to be changed without notice in advance.