

# JIS

**JAPANESE INDUSTRIAL STANDARD**

**Testing method for ultrasonic  
pulse echo technique of carbon fibre  
reinforced plastic panels**

**JIS K 7090<sup>—1996</sup>**

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**In the event of any doubt arising,  
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## JAPANESE INDUSTRIAL STANDARD

J I S

## Testing method for ultrasonic pulse echo technique of carbon fibre reinforced plastic panels K 7090-1996

1. Scope This Japanese Industrial Standard specifies testing method for ultrasonic pulse echo technique by which flaws such as delamination, measuring at least 2 mm × 2 mm or at least 2 mm in diameter, dwelling inside of carbon fibre reinforced plastic (hereafter referred to as "CFRP") panels, are detected by water-immersion method using ultrasonic pulse.

Remarks 1. The testing person who carries out the test using this Standard shall bear the required license or have the sufficient skill and knowledge corresponding to the license.

2. The standards cited in this Standard are listed as follows.

JIS B 0601 Surface roughness – Definitions and designation

JIS K 6900 Plastics – Vocabulary

JIS K 7072 Preparation of carbon fibre reinforced plastic panels for test purpose

JIS Z 2300 Glossary of terms used in nondestructive testing

JIS Z 2350 Method for measurement of performance characteristics of ultrasonic probes

JIS Z 2351 Method for assessing the electrical characteristics of ultrasonic testing instrument using pulse echo technique

2. Definitions The definitions of main terms used in this Standard shall follow JIS K 6900 and JIS Z 2300.

3. Principle of test

3.1 Classification of testing methods The ultrasonic flaw detecting methods for CFRP flat panel shall be classified into the reflecting plate method [Fig. 1 (a)] and the penetration method [Fig. 1 (b)], and a test panel shall be arranged in water as shown in Fig. 1 (a) or (b).

For the test panel with thickness less than 10 mm, either of these methods can be used; and for thickness 10 mm or over up to and including 20 mm, the penetration method shall be used.