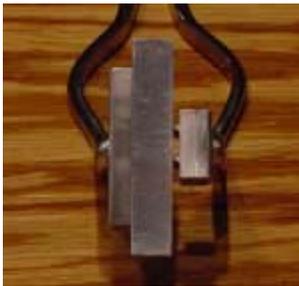


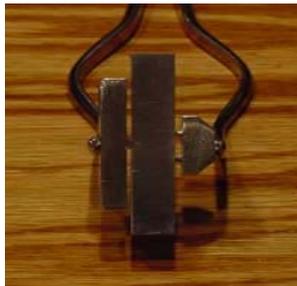
Tongs

INTRODUCTION

Some customers think that all Charpy tongs are alike. Not so! Precision tongs are an essential part of the Charpy impact test and incorrectly fabricated tongs can result in poor test results. ASTM standard E 23 states “Means shall be provided (see Fig. A.1.2) to locate and support the test specimen against two anvil blocks in such a position that the center of the notch can be located within 0.25 mm (0.010 of the midpoint between the anvils”. Research at MPM has shown that when a space exists between the tool and the test specimen, as in the photograph on the right below, the ASTM centering tolerance can be exceeded.



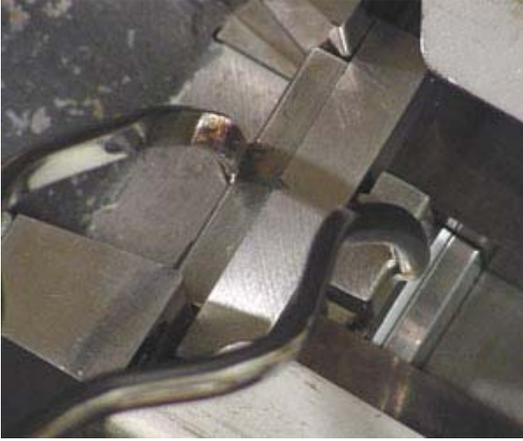
MPM Tongs - No Space between Centering Tool and Specimen



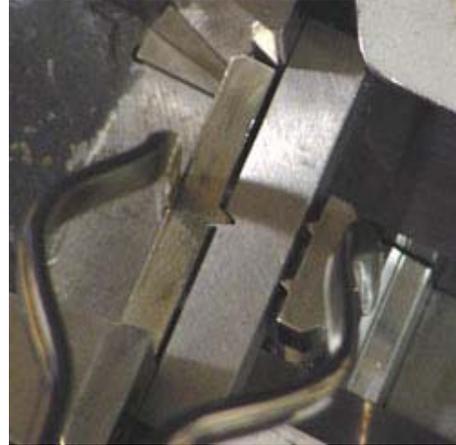
Other manufacturer's Tongs - Incorrect Fabrication results in Space between Tool and Specimen

MPM PRECISION TONGS

MPM precision tongs meet the requirements of ASTM E 23. In order to satisfy the standard, the tongs are made on a high accuracy computer controlled mill. As shown in the photograph on the left below, it is essential that the specimen be in contact with the tool so that the anvil radius properly centers the tool. The tongs shown in the right photograph below, made by another manufacturer, have already passed through the anvil radius region by the time the specimen comes into contact with the anvil support surface. This is a serious problem which allows excess play in the centering tool which can exceed the ASTM requirement.



*MPM Tongs - Tool is Centered
between Anvil Radius when
Specimen is Deposited*



*Other manufacturer's Tongs -
Tool is Past Anvil Radius when
Specimen is Deposited*

Another important feature of the MPM tongs is that the centering of the notch is done very close to the notch radius region. The centering tool protrudes deep into the notch region to accurately center the notch. This is important because accurate specimen centering does not depend on accurate machining of the 45 degree included angle on the test specimen.

Repeated measurements (30 times) using MPM tongs have shown that the notch is centered on average to within 0.0016 inches which far exceeds the ASTM E 23 requirement. The standard deviation for the average is 0.00077 inches. The measurements were made on an actual test machine.

FOR MORE INFORMATION

If you would like a price quotation or additional information concerning MPM's services or products, please contact us at the below listed address:

Address:	MPM Technologies, Inc. 2161 Sandy Drive State College, PA 16803
Individual:	Dr. Michael P. Manahan, Sr.
Phone:	814-234-8860 (extension 121)
FAX:	814-234-0248
Website:	www.MPMTechnologies.com
Email:	MPManahan@MPMTechnologies.com

2161 Sandy Drive

State College, PA 16803-2283

www.MPMTechnologies.com

USA

Office (814) 234-8860

FAX (814) 234-0248