

Series 421 New Hybrid drill Product Line

Kyocera Tycom Corporation

11/1/12

Abstract

Kyocera Tycom Corporation (KTC) has long been committed to offer products to meet state of the art applications. With continued minaturizing of electronic packaging, demands for high accuracy drilling have shown significant growth. To meet this new demand, KTC is pleased to announce the introduction of a new PCB drill Series 421, designed for optimum hole location performance for increased stack heights and high aspect ratio PCB's parts. This document details the results of the work completed in the KTC Development Lab. This bulletin demonstrates to the PCB market the high performance of this new product.

KTC will work with customers to transition to the new product in a timely manner.

KTC offers Series 421 in multiple diameters as well as flute lengths:

Diameter		Standard Flute Length	Part Number	Extended Flute Length	Part Number
Metric	Inch				
0.10mm	0.0039"	2.0mm/ 0.079"	421.0039.079	----	----
0.13mm	0.0050"	2.0mm/ 0.079"	421.0050.079	----	----
0.15mm	0.0059"	2.5mm/ 0.098"	421.0059.098	----	----
0.20mm	0.0079"	3.0mm/ 0.118"	421.0079.118	4.0mm/ 0.158"	421.0079.158
0.25mm	0.0098"	4.0mm/ 0.158"	421.0098.158	5.0mm/ 0.197"	421.0098.197
0.275mm	0.0110"	5.0mm/ 0.197"	421.0110.197	5.5mm/ 0.217"	421.0110.217
0.30mm	0.0118"	5.0mm/ 0.197"	421.0118.197	5.5mm/ 0.217"	421.0118.217
0.35mm	0.0138"	5.5mm/ 0.217"	421.0138.217	6.5mm/ 0.256"	421.0138.256
0.40mm	0.0157"	6.0mm/ 0.236"	421.0157.236	7.5mm/ 0.295"	421.0157.295
0.45mm	0.0177"	6.0mm/ 0.236"	421.0177.236	7.5mm/ 0.295"	421.0177.295

KTC Series 421 Performance Comparison

Lab and beta site tests were conducted to ensure the product performed at an improved level that is both reliable and repeatable.

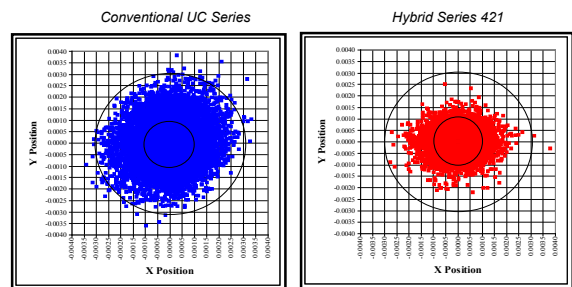
Parameters / Performance Results

Hole Location

Material: ISOLA 370 HR Drill diameter: 0.25mm
 Thickness: 0.103" Hit Count: 2300
 Copper Content: 18 Layers / 1 oz (Exit Side Measurement)

	True Position Deviation		
	Mean	StdDev	Median
Conventional UC Series:	0.001245	0.000617	0.001192
Cp :	1.62		
Hybrid Series 421:	0.000768	0.000428	0.000704
Cp :	2.33		

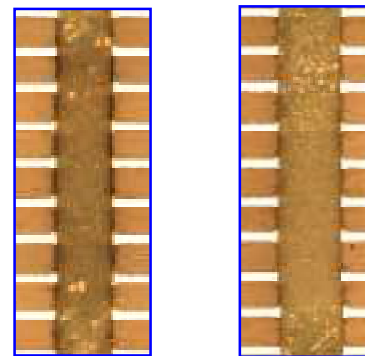
(0.003" Radial Spec)



Hole Wall Quality

Material: ISOLA 370 HR Drill diameter: 0.25mm
 Thickness: 0.103" Hit Count: 2300
 Copper Content: 18 Layers / 1 oz

	Ave Max Gouging (in)	Ave Max Nail Heading	Plugged Holes per Million
Conventional UC Series	0.000105	177%	0
Hybrid Series 421	0.000100	176%	0



Tool Life / Robustness

Material: ISOLA 370 HR Drill diameter: 0.25mm
 Thickness: 0.103" Hit Count: 2300
 Copper Content: 18 Layers / 1 oz

	Infeed at Breakage	
	Mean	StdDev
Conventional UC Series	308	19.2
Hybrid Series 421	354	8.9

