

CUTTING GEOMETRIES



-2C

-2C geometry has an open chip breaker that reduces cutting pressure while maintaining insert strength. -2C is ideal for machining low carbon steel.



-3M

-3M has the strength of a flat top "W" insert, however its helical cutting edge helps to reduce machine power consumption.



-41

-41 is a general purpose geometry mainly applied to utility ground inserts. This economical geometry is available with a number of insert styles for use in all approach angles. The -41 geometry has a strong cutting edge with a very high positive rake and can be used with lower feed rates than the -42 geometry.



-411

-411 is a general purpose geometry mainly applied to utility ground inserts. This geometry is stronger than -41 and is used to mill steels and stainless steels with moderate feed rates.

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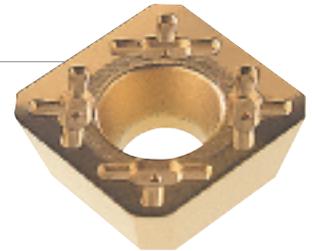
-42

-42 is a general purpose geometry for use on most materials. The positive rake and T-land combine to create a strong cutting edge. For 90° milling, the -42 geometry is the first choice for tough operations. It is available on precision ground insert styles – AP series, SDHT and MPHT in a number of coated grades. High feed rates are possible with this geometry in 90° and 45° lead angle milling.



-421

-421 geometry is for medium finishing operations in high temperature alloys, titanium, stainless steels, and difficult-to-machine materials. The high positive rake angle prevents built-up edges in these tough materials. RPHT and SDHT inserts are available with the -421 geometry for 45° and 0° milling operations. The -421 is a refinement of the -42 design, but its range of application is more for finishing and for high temperature alloys requiring a sharper cutting edge.



-43

-43 is a general purpose geometry designed to handle tough, sticky materials such as stainless steels and high temperature alloys. It is applied to utility ground inserts with ground wiper edges for excellent surface finish and closer axial runout tolerance. ADKT, APKT and MPMT are available with the -43 geometry for use in Stellram's 90° cutters. Its inclined cutting edge provides a freer cutting action than the -42 geometry.



-44

-44 geometry is peripheral ground with a ground facet for producing the best surface quality in most materials while reducing cutting pressure and power consumption.



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-46

The -46 geometry is a fully peripheral ground geometry for increased accuracy available on AP-style inserts with a radius. The inserts have a ground facet improving surface finishes on the component floor. The peripheral grinding produces a consistent edge condition and accurate radius form leading to longer tool life.



-441

-441 geometry is a peripheral ground insert with a sharp cutting edge for use on aluminum alloys, titanium alloys, copper and brass. The -441 geometry provides freer cutting in 90° and 45° operations and reduces the “suction effect” associated with higher helical geometries.



-45

-45 geometry is designed for roughing and semi-finishing. Available with a number of grades, -45 geometry allows machining of a wide range of materials. It is available on utility ground inserts with ground wiper edges for good surface finishes. The -45 geometry provides freer cutting in 45° operations and reduces the “suction effect” associated with higher helical geometries.



-47

-47 geometry has similar cutting applications as the -45 geometry, with a slightly lower cutting pressure and performs well with high temperature alloys.

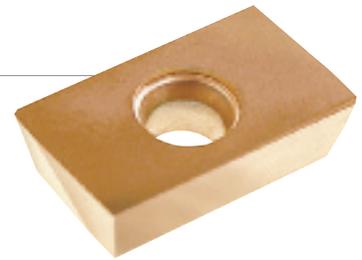
-J

-J is a flat top insert with a ground circumference. It is available with various radius sizes.



...W

...W geometry – Stellram offers a number of flat-top inserts for numerous milling applications in a wide range of materials. The flat-top inserts are the best choice for toughness in 90°, 45° and 0° milling. This geometry offers a stronger cutting edge than a chip-groove insert.



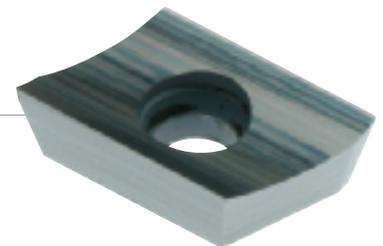
-701

-701 geometry is highly suitable for finishing a wide range of materials at low feedrates. A very high positive rake allows a freer cutting action particularly in aluminum. Titanium can be finished when the -701 geometry is combined with grade SFZ. This geometry is available with precision ground Stellram insert designs. All of the inserts required in the superb Aerostell® cutter use the -701 geometry for its excellent performance on thin-walled components.



-721

-721 is a geometry available on the ADGT12 insert for milling aluminum. The high positive rake and sharp edge allows a freer cutting action and reduces built-up edge.



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-P

-P geometry has a reinforced base similar to -T geometry. This makes the insert thicker and stronger for use in roughing applications on 5210 style extended flute cutters.



-RA

The -RA geometry is available on precision ODEW inserts for milling cast iron. The extended facet on this insert geometry allows a 50% higher feed rate for high productivity. The geometry is available with SC3025, our top cast iron milling grade.



-RGS

-RGS geometry is designed for finish machining of 3D molds. It is extremely accurate and gives a very long tool life. The RGS works much better than the RG, when machining a side wall that is close to 90°.



-SN

-SN is our strongest in this range and is ideal for unstable cutting conditions, long overhangs and very high feedrates.

...T

...T geometry is for general purpose applications, particularly in 45° milling operations and is found on a wide range of Stellram inserts. This design is nearly as tough as flat-top inserts while providing excellent chip breaking ability.



-TN

-TN is similar to -SN but has a smaller edge preparation which reduces machine power consumption.

