CLAIMS

What is claimed is:

1. An earth-boring tool, comprising:

a body comprising a crown at a leading end of the body, the crown comprising a cone region at and around a rotational axis of the body, a nose region adjacent to and surrounding the cone region, a shoulder region adjacent to and surrounding the nose region, and a gage region defining a periphery of the body adjacent to and surrounding the shoulder region;

a first cutting element located in the cone region secured to the body, the first cutting element comprising a first polycrystalline table comprising interbonded grains of superhard material formed using a catalyst material and secured to a first substrate;

a second cutting element located in the nose region secured to the body, the second cutting element comprising a second polycrystalline table comprising interbonded grains of superhard material formed using a catalyst material and secured to a second substrate;

a third cutting element located in the shoulder region secured to the body, the third cutting element comprising a third polycrystalline table comprising interbonded grains of superhard material formed using a catalyst material and secured to a third substrate; and

a fourth cutting element located in the gage region secured to the body, the fourth cutting element comprising a fourth polycrystalline table comprising interbonded grains of superhard material formed using a catalyst material and secured to a fourth substrate;

wherein the first polycrystalline table is substantially free of the catalyst material to a first depth, the second polycrystalline table is substantially free of the catalyst material to a second, greater depth, the third polycrystalline table is substantially free of the catalyst material to a third, still greater depth, and the fourth polycrystalline material is substantially free of catalyst material to a fourth, greatest depth, and wherein a rate at which depth increases from the first depth, through the second and third depths, to the fourth depth is at least substantially according to a Solow growth curve.

2. The earth-boring tool of claim 1, wherein the second depth is about 25% of an entire thickness of the second polycrystalline table or greater.

3. The earth-boring tool of claim 2, wherein the third depth is about 50% of the entire thickness of the third polycrystalline table or greater.

4. The earth-boring tool of claim 3, wherein the fourth polycrystalline table is substantially completely free of the catalyst material.

5. The earth-boring tool of claim 1, wherein a depth of removal of catalyst material of each polycrystalline table of each cutting element secured to the body increases with distance from the rotational axis from the cone region to the shoulder region at a rate according to a Solow growth curve.

6. An earth-boring tool, comprising:

a body comprising a crown at a leading end of the body, the crown comprising a cone region at and around a rotational axis of the body, a nose region adjacent to and surrounding the cone region, a shoulder region adjacent to and surrounding the nose region, and a gage region defining a periphery of the body adjacent to and surrounding the shoulder region;

a first cutting element located in the cone region secured to the body, the first cutting element comprising a first polycrystalline table secured to a first substrate;

a second cutting element located in the nose region secured to the body, the second cutting element comprising a second polycrystalline table secured to a second substrate; and

a third cutting element located in the shoulder region secured to the body, the third cutting element comprising a third polycrystalline table secured to a third substrate,

a fourth cutting element located in the gage region secured to the body, the fourth cutting element comprising a fourth polycrystalline table secured to a fourth substrate;

wherein each of the first polycrystalline table, the second polycrystalline table, the third polycrystalline table, and the fourth polycrystalline table comprises interbonded grains of superhard material formed using a catalyst material and wherein the first polycrystalline table is substantially free of the catalyst material to a first depth, the second polycrystalline table is substantially free of the catalyst material to a second, greater depth of at least about 100 μm, and the third polycrystalline table is substantially free of the catalyst material to another, still greater depth, and the fourth polycrystalline table is substantially free of the catalyst material to a greatest depth and wherein a rate at which depth increases from the first depth, through the second and third depths, to the fourth depth is at least substantially according to a Solow growth curve.

7. A method of forming an earth-boring tool, comprising:

providing a first cutting element, a second cutting element, a third cutting element, and a fourth cutting element, the first cutting element comprising a first polycrystalline table secured to a first substrate, the second cutting element comprising a second polycrystalline table secured to a second substrate, the third cutting element comprising a third polycrystalline table secured to a third substrate, the fourth cutting element comprising a fourth polycrystalline table secured to a fourth substrate, wherein each of the first polycrystalline table, the second polycrystalline table, the third polycrystalline table, and the fourth polycrystalline table comprises interbonded grains of superhard material;

removing catalyst material used to catalyze formation of inter-granular bonds among the grains of superhard material from the first polycrystalline table to a first depth, removing catalyst material used to catalyze formation of inter-granular bonds among the grains of superhard material from the second polycrystalline table to a second, greater depth, removing catalyst material used to catalyze formation of inter-granular bonds among the grains of superhard material from the third polycrystalline table to a third, still greater depth, and removing catalyst material used to catalyze formation of inter-granular bonds among the grains of superhard material from the fourth polycrystalline table to a fourth, greatest depth, such that a rate at which depth increases from the first depth, through the second and third depths, to the fourth depth is at least substantially according to a Solow growth curve;

providing a body comprising a crown at a leading end of the body, the crown comprising a cone region at and around a rotational axis of the body, a nose region adjacent to and surrounding the cone region, a shoulder region adjacent to and surrounding the nose region, and a gage region defining a periphery of the body adjacent to and surrounding the shoulder region;

securing the first cutting element to the body in the cone region;

securing the second cutting element to the body in the nose region;

securing the third cutting element to the body in the shoulder region; and

securing the fourth cutting element to the body in the gage region.

8. The method of claim 7, wherein removing the catalyst material to the second depth comprises removing the catalyst material to a depth of about 25% of an entire thickness of the second cutting element or greater.

9. The method of claim 8, wherein removing the catalyst material to the fourth depth comprises substantially completely removing the catalyst material from the fourth polycrystalline table.

10. The earth-boring tool of claim 7, wherein removing the catalyst material comprises leaching the catalyst material.