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(72) Inventor:
**Egan David Patrick, IE,
 Engels Johannes Alexander, ZA,
 Fish Michael Lester, GB**

(73) Proprietor:
ELEMENT SIX LIMITED, IE

(54) **superhard abrasive with coating**

(57) Abstract:

A coated super-hard abrasive comprises a core of super-hard abrasive material, which is typically diamond or cBN based, an inner layer of a metal carbide, nitride, boride or carbonitride chemically bonded to an outer surface of the super-hard abrasive material and an outer layer of a metal carbonitride, in particular titanium carbonitride. The outer layer is preferably applied by physical vapour deposition. The inner layer is formed from an

element capable of forming (singly or in combination) carbides, nitrides or borides to the surface(s) of the abrasive material when applied using a hot coating process.

Official bulletin "Industrial property". Book 1 "Inventions, utility models, topographies of integrated circuits", 2008, N 13, 10.07.2008. State Department of Intellectual Property of the Ministry of Education and Science of Ukraine.

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(72) AeaOaeE(e):
aaiH AaaA IaOoe, IE,
AiaaeuH EioaiH AeaehaiAaO, ZA,
Oa IaeeE EahOaO, GB

(73) AeaHieE(e):
AEAIO HEN EPHOAA, IE

(54) **IAAOAAAE AADAQA Q IIEDEOBI**

(57) DaOaOaO:
O qa aoH iHnaiEe iaaoaaOaeE aadaqa q
iieDeoB i, eee iOHoeoB HAOaaaeio q iaaoaaOaiH
aadaqaaiH IaOaOaeO, iaOaaaeiH ia iHnaiH aeiaqO
aaiH eoaa+iH iOHoeoB aiO, aiOoOeH e aad q
eaOaaO, iOHoeoB, aiOeao aaiH eaOaiH iOHoeoB IaOaeO,
O+iH qa qaiEe q qaiH iHnaiH iiaOaiH
iaaoaaOaiH aadaqaaiH IaOaOaeO, q qaiH e aad q

eaOaiH iOHoeoB IaOaeO, qieOaiH eaOaiH iOHoeoB oeoaiO.
QaiH e aad iaOaaaeiH iaHnaiEe iaOaiH
eiHnaiH q IaOaiH Oaqe. AiOoOeH e aad iaOaeaeE
q aeaiHaeO, eee iDe iaHnaiH iieDeoBa aad +ei
iaOaiH qaOieE iaeaaOaeuiH aaiH a eiHnaiH
oOaiHpaOe ia iiaOaiH(- O) aadaqaaiH IaOaOaeO
eaOaaE, iOHoeae aaiH aiOeae.

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5 Āē iáíáñáí ðáíííðíííá ííēðēòò íá áñ° àēíàçí° +añòēíēē ííòòæí°ñòù ñííííá ðíçíēēáí çá°ēùòòááēē í°á +añ íááðòáíí ááðáááíá íðē òēñēò áðáííó, ùí áíð°áíð° 20 ñòáíááðòíēí ēóá°-íēí ñáíòēíáòðáí, áí 10 Å (400 Å) íá í°òáí°. Í°ñē òúíáí á ēáíáðò ðáçíí ç áàçíííá°áíēí àçííòíí ííááááēē áàçíííá°áíēē Ñ₄I₁₀ íðē òēñēò 5 ēóá°-íēò ñáíòēíáòðáí áíðē, ííēē

10 Áāē° òāē° àēíàçí° +añòēíēē ç íáíáñáíēí íá íēð ííēðēòò í í°áááááēē ò°ēííó ð áó áíñē°áāēáíú, áēēð+àð+ē ðáíòááí°áñúēēē ñòðòēòòíēíē, ðáíòááí°áñúēēē ðēðíðáñòáíòáíēē òà ð°í°-íēē áíáē°ç ííēðēòò, áíáē°ç íááðáēáíēð ííòē-ííð òà ñēáíòáāēúííð áēáēòðííííð í°ēðíñēí°ð ç íáðááēáíú ° ðííááááíēē íá ñēáíòáāēúíííó áēáēòðííííó í°ēðíñēí° (ÑÁÍ) áíáē°ç ñòðòēòòíēē ííáðá+ííáí íáðáð°çò +añòēíēé í°ñē Ìð ðóēíóááíí .

15 Íðē á°çóáāēúíí°ē íáðáá°ðò° òāēá íáíáñáíá íá àēíàçí° +añòēíēē ííēðēòò íāēí òáííí-+áðáííēē/í°áíí-+áðáííēē ēíē°ð. Òāēá çáááðáēáíí áóēí ðíçííá°ēáíí ð°áíííðíí íá ēíæí°ē +añòēíó°, ° áñ° +añòēíēē áēāē áāēē íáíáēíáí. Ííēðēòò íá áñ°ò +añòēíēáò áēāē áāēí ð°áíííðíēí ° ñóó°ēúíēí. Áíáē°ç íá ÑÁÍ ó ñáíð +áðáó ííēáçáá, ùí ííēðēòò íáíáñáíá ð°áíííðíēí ðáðíí ° íá° çēááēá ðíðñòēòááòò ñòðòēòòíē. Í°ñē òúíáí +añòēíēē ðóēíóáāēē ° íá ÑÁÍ áíñē°áāēáēē ñòðòēòòíē ííáðá+ííáí íáðáð°çò íáíáñáííáí íá íēð ííēðēòò . Íá íòðēíáíēð ç íáðááēáíí ð °òēí áóēá ííí°óíá ááíðáðíáá ñòðòēòòá, ó

20 1,03% á°á òñúíáí ííáðá+ííáí íáðáð°çò +añòēíēé. Íðē òúííó íá +añòēó ðáðò Ò°Ñ íðē òāēííó ðíçí°ð áēíàçíēð +añòēíēé ó ò°ē Ìð íáðò°ç íðēíááāēí 0,45%. Íðē +añòēíá ç 1,03% íðēíááāēá, òāēēí +ēííí, íá +añòēó ðáðò TICN, íáíáñáííáí ííááðò áíóòð°úííáí ðáðò Ò°Ñ. Íðē ðáíòááí°áñúēííó ñòðòēòòíííó áíáē°ç° á ñēēáá° +añòēíēé áóēē áē áēáí° Ò°Ñ òà TICN. Çá ááíēíē ðáíòááí°áñúēíáí ðēðíðáñòáíòáííáí áíáē°çò íá +añòēó Ò° ó ííēðēòò° íðēíááāēí 100%.

Óíðíóēá áēíáðíáó

25 1. Íááòááðáēē ááðáçēá ç ííēðēòò í, ēēē á°áð°çí° °òúñ òēí, ùí í°ñòēòú ñáðòáāēíó ç íááòááðáííáí ááðáçēáííáí íáòáð°áēó, áíóòð°í°ē ðáð ç ēáðá°áó, í°ððēáó, áíðēáó ááí ēáðáíí°òðēáó íáòáēó, ēēē ð°í°-íí çáí° çáíēē °ç ç íáíí°úíííð ííááðííáð íááòááðáííáí ááðáçēáííáí íáòáð°áēó, ° ç íáíí°í°ē ðáð ç ēáðáíí°òðēáó íáòáēó, íñááæáíēē íá áíóòð°í°ē ðáð.

30 2. Ááðáçēá çà í. 1, ēēē á°áð°çí° °òúñ òēí, ùí ç íáíí°í°ē ðáð áēííáíēē ç ēáðáíí°òðēáó òēòáíó.

3. Ááðáçēá çà í. 1 ááí 2, ēēē á°áð°çí° °òúñ òēí, ùí ç íáíí°í°ē ðáð íñááæáíēē íáòáííí ēííááíñáò°ç ç íáðíáííç ðáçē.

4. Ááðáçēá çà áóáú- ēēí ç ííáðááí°ð íóíēò°á, ēēē á°áð°çí° °òúñ òēí, ùí íááòááðáēí ááðáçēáíēí íáòáð°áēíí ° ááðáçēáíēí íáòáð°áē íá íñííá° áēíàçó ááí ēóá°-ííáí í°ððēáó áíðó (cBN).

5. Ááðáçēá çà í. 4, ēēē á°áð°çí° °òúñ òēí, ùí íááòááðáēē ááðáçēáíēē íáòáð°áē áēáíáíēē °ç áðòíē, ùí áēēð+á° ááðáçēáí° +añòēíēē áēíàçó ááí cBN, í°áēēááēó ç ííē°ēðēñòáē°-ííáí áēíàçó, í°áēēááēó ç òáðííñòáá°ēúííáí ííē°ēðēñòáē°-ííáí áēíàçó, í°áēēááēó ç ííē°ēðēñòáē°-ííáí í°ððēáó áíðó, íááðááíó íáòáííí ð°í°-ííáí íñááæáíí ç íáðíáííç ðáçē áēíàçíó íē°áēó òà íííēðēñòáē°-íó áēíàçíó í°áēēááēó.

6. Ááðáçēá çà áóáú- ēēí ç ííáðááí°ð íóíēò°á, ēēē á°áð°çí° °òúñ òēí, ùí áíóòð°í°ē ðáð íááðáēáíēē ç áēáíáíòá, ēēē íðē íáíáñáí° ííēðēòò°á ááð +ēí íáòáííí çááòíēē ° íáēá°áóáēúííí ááí á ēííá°íáò°ç òòáíðááòē íá ííááðóí°(- ð) ááðáçēáííáí íáòáð°áēó ēáðá°áē, í°ððēáē ááí áíðēáē.

40 7. Ááðáçēá çà í. 6, ēēē á°áð°çí° °òúñ òēí, ùí çáçíá+áíēē áēáíáíò áēáðáíēē °ç áðòíē, ēá áēēð+á° áēáíáíòē áðòí IVa, Va, VIa, IIIb òà IVb Íáð°íáē-ííç òáááēēó° áēáíáíò°á.

8. Ááðáçēá çà áóáú- ēēí ç ííáðááí°ð íóíēò°á, ēēē á°áð°çí° °òúñ òēí, ùí áē ñáðòááēíē ç ááðáçēáííáí íáòáð°áēó íá íñííá° áēíàçó áíóòð°í°í ðáðííí ° ííēðēòò ç ēáðá°áó òēòáíó ááí ðíííó, á áē ñáðòááēíē ç ááðáçēáííáí íáòáð°áēó íá íñííá° cBN, áíóòð°í°í ðáðííí ° ííēðēòò ç í°ððēáó, áíðēáó ááí áíðíí°òðēáó òēòáíó, ááí ðíííó.

45 Íð°óēíēē áēáááíú "Íðííēñēíáá áēáñí°ñòú". Éíēáá 1 "Áēíáðíáē, ēíðēñí° ííááē°, òííáðáò°ç °íááááēúííēð í°ēðíñòáí", 2008, N 13, 10.07.2008. Ááðáæáíēē ááíáðòáíáíò °íóáēáēòóáēúííç áēáñííñò° í°ñòáðñòáá íñá°òē ° íáóēē Óēðáçíē.

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