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(54) **Corrosion resistant polycrystalline abrasive compacts**

(57) A supported abrasive particle compact is composed of a cobalt-cemented carbide support integrally bonded to an abrasive particle layer of self-bonded diamond particles or CBN particles. The cobalt content in said supported compact is provided in form of a nickel-cobalt alloy wherein the amount of nickel is such that

the cobalt is present in the face center cubic (FCC) or e phase. The inventive cutters can be made by infiltration of Ni metal into cemented WC substrate and/or the polycrystalline layer bonded thereto. Bonding includes high pressure/high temperature (HP/HT) formation of the supported polycrystalline compact and the brazing of the polycrystalline compact to the support.

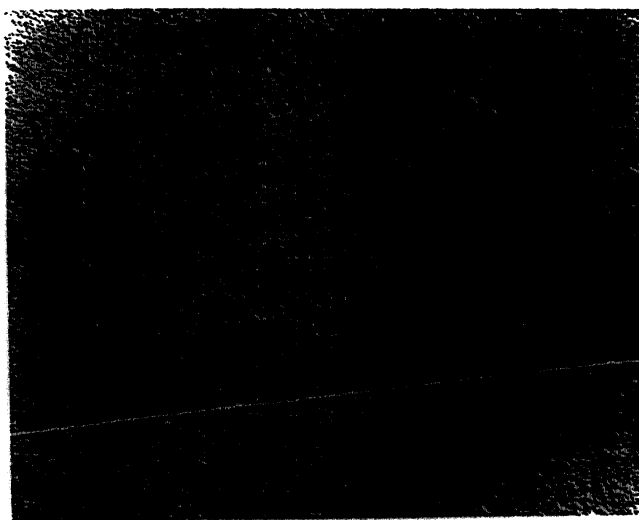


FIG. 2

EP 1 033 414 A3



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# EUROPEAN SEARCH REPORT

Application Number  
EP 00 30 1474

| DOCUMENTS CONSIDERED TO BE RELEVANT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                     |                                                         |                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------------|
| Category                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Citation of document with indication, where appropriate, of relevant passages                                                                                                                                       | Relevant to claim                                       | CLASSIFICATION OF THE APPLICATION (Int.Cl.7)            |
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| Y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | * abstract, claims 1-7 *<br>* column 1, lines 9,10,18, 37-40, 57-59;<br>column 2, lines 18-26; column 3, lines<br>33-40; column 4, lines 16-18 *                                                                    | 4-13                                                    |                                                         |
| Y,D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ---<br>US 4 797 326 A (CSILLAG FRANK J)<br>10 January 1989 (1989-01-10)<br>* column 1, lines 6-11; column 3, lines<br>33-35; column 5, lines 21-24, 33-37,<br>41-45; claims 1-4, 7 *<br>* Examples 1,2,4 *          | 4-13                                                    |                                                         |
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| The present search report has been drawn up for all claims                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                     |                                                         |                                                         |
| Place of search<br><b>MUNICH</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                     | Date of completion of the search<br><b>16 July 2002</b> | Examiner<br><b>Gavrilu, A</b>                           |
| <p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone<br/>Y : particularly relevant if combined with another document of the same category<br/>A : technological background<br/>O : non-written disclosure<br/>P : intermediate document</p> <p>T : theory or principle underlying the invention<br/>E : earlier patent document, but published on, or after the filing date<br/>D : document cited in the application<br/>L : document cited for other reasons<br/>&amp; : member of the same patent family, corresponding document</p> |                                                                                                                                                                                                                     |                                                         |                                                         |

EPO FORM 1503 03.82 (P04C01)



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# EUROPEAN SEARCH REPORT

Application Number  
EP 00 30 1474

| DOCUMENTS CONSIDERED TO BE RELEVANT                                                                                                                                                                                                                    |                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                       |                                              |
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| Category                                                                                                                                                                                                                                               | Citation of document with indication, where appropriate, of relevant passages                                                                                                                    | Relevant to claim                                                                                                                                                                                                                                                                     | CLASSIFICATION OF THE APPLICATION (Int.Cl.7) |
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|                                                                                                                                                                                                                                                        |                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                       | TECHNICAL FIELDS SEARCHED (Int.Cl.7)         |
|                                                                                                                                                                                                                                                        |                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                       |                                              |
| The present search report has been drawn up for all claims                                                                                                                                                                                             |                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                       |                                              |
| Place of search<br><b>MUNICH</b>                                                                                                                                                                                                                       |                                                                                                                                                                                                  | Date of completion of the search<br><b>16 July 2002</b>                                                                                                                                                                                                                               | Examiner<br><b>Gavriliu, A</b>               |
| CATEGORY OF CITED DOCUMENTS<br>X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document |                                                                                                                                                                                                  | T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>.....<br>& : member of the same patent family, corresponding document |                                              |

EPO FORM 1503 03/82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT  
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EP 00 30 1474

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16-07-2002

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