

# **VHM-BOHRER** **SOLID CARBIDE DRILLS** **BROCAS MD**

## **Mehrflächenanschliff**

bewirkt optimalen Spanbruch, hohe Zentriergenauigkeit und geringe Schnittkräfte

## **Multi faced point shape**

*to optimize chip flow,  
multi facet point geometry  
for self centering*

## **La punta afilada de diversas caras**

*garantiza una rotura de las virutas  
óptima, una elevada precisión del  
centrado y una fuerza de corte menor*

## **Hohe Schnittgeschwindigkeit und Vorschübe**

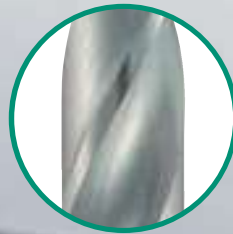
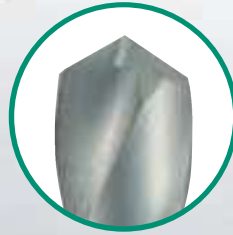
*High cutting speeds and feeds*

*Velocidad de corte y avances  
elevados*

## **Vollhartmetall**

*Solid carbide*

*Metal duro y macizo*



**D** Vollhartmetall-Spiralbohrer,  
extra kurz, DIN 6539

**E** Solid carbide stub drills,  
DIN 6539

**ES** Broca espiral de metal duro y  
macizo, extra corta, DIN 6539

**Einsatzbereich:**

Besonders geeignet zum Bohren von hochfesten Stählen, Cr-Ni-Stählen, Hartguss, Grauguss, Stahlguss, Mn-Hartstahl, Bronze, Aluminium mit hohem Siliziumanteil und anderen schwer zerspanbaren Werkstoffen (beschichtete Ausführung).

**Range of application:**

Especially suitable for drilling heat resistant steels, Cr-Ni steels, high carbon steel castings, grey cast iron, cast steels, manganese steels, bronze, aluminium with high percentage silicon and other difficult-to-machine materials (coated design).

**Aplicación:**

Especialmente adecuada para el taladrado de aceros de alta resistencia, aceros al cromo-niquel, fundición blanca, hierro fundido gris, fundición de acero, acero duro con manganeso, bronce, aluminio con contenido elevado de silicio y otros materiales difícilmente mecanizables con virutaje (diseño recubierto).



| Ø <sub>h7</sub><br>mm | l1<br>mm | l2<br>mm | Code 6146                  |            | Code 6147      |            |
|-----------------------|----------|----------|----------------------------|------------|----------------|------------|
|                       |          |          | Art.-Nr.                   | Inh. Cont. | Art.-Nr.       | Inh. Cont. |
|                       |          |          | blank   bright   brillante |            | ALUNIT®        |            |
| 0,50                  | 26       | 6        | 0 614600050100             | 1          | 0 614700050100 | 1          |
| 0,60                  | 26       | 6        | 0 614600060100             | 1          | 0 614700060100 | 1          |
| 0,70                  | 26       | 6        | 0 614600070100             | 1          | 0 614700070100 | 1          |
| 0,80                  | 26       | 6        | 0 614600080100             | 1          | 0 614700080100 | 1          |
| 0,90                  | 26       | 6        | 0 614600090100             | 1          | 0 614700090100 | 1          |
| 1,00                  | 26       | 6        | 0 614600100100             | 1          | 0 614700100100 | 1          |
| 1,10                  | 28       | 7        | 0 614600110100             | 1          | 0 614700110100 | 1          |
| 1,20                  | 30       | 8        | 0 614600120100             | 1          | 0 614700120100 | 1          |
| 1,30                  | 30       | 8        | 0 614600130100             | 1          | 0 614700130100 | 1          |
| 1,40                  | 32       | 9        | 0 614600140100             | 1          | 0 614700140100 | 1          |
| 1,50                  | 32       | 9        | 0 614600150100             | 1          | 0 614700150100 | 1          |
| 1,60                  | 34       | 10       | 0 614600160100             | 1          | 0 614700160100 | 1          |
| 1,70                  | 34       | 10       | 0 614600170100             | 1          | 0 614700170100 | 1          |
| 1,80                  | 36       | 11       | 0 614600180100             | 1          | 0 614700180100 | 1          |
| 1,90                  | 36       | 11       | 0 614600190100             | 1          | 0 614700190100 | 1          |
| 2,00                  | 38       | 12       | 0 614600200100             | 1          | 0 614700200100 | 1          |
| 2,10                  | 38       | 12       | 0 614600210100             | 1          | 0 614700210100 | 1          |
| 2,20                  | 40       | 13       | 0 614600220100             | 1          | 0 614700220100 | 1          |
| 2,30                  | 40       | 13       | 0 614600230100             | 1          | 0 614700230100 | 1          |
| 2,40                  | 43       | 14       | 0 614600240100             | 1          | 0 614700240100 | 1          |
| 2,50                  | 43       | 14       | 0 614600250100             | 1          | 0 614700250100 | 1          |
| 2,60                  | 43       | 14       | 0 614600260100             | 1          | 0 614700260100 | 1          |
| 2,70                  | 46       | 16       | 0 614600270100             | 1          | 0 614700270100 | 1          |
| 2,80                  | 46       | 16       | 0 614600280100             | 1          | 0 614700280100 | 1          |

<sup>1)</sup> ≤ Ø 2,90 mm 4-Flächenanschliff / 4-faced point shape / Punta afilada cuádruple  
≥ Ø 3,00 mm 6-Flächenanschliff / 6-faced point shape / Punta afilada de 6 caras

|                       |          |          | Einzelverpackung<br>Single packing<br>Embalaje individual | Einzelverpackung<br>Single packing<br>Embalaje individual |                |   |
|-----------------------|----------|----------|---|---|----------------|---|
| Ø <sub>h7</sub><br>mm | l1<br>mm | l2<br>mm | Code 6146<br>Art.-Nr.                                     | Inh.<br>Cont.   |                |   |
|                       |          |          | Code 6147<br>Art.-Nr.                                     | Inh.<br>Cont.   |                |   |
|                       |          |          | blank   bright   brillante                                | ALUNIT®   |                |   |
| 2,90                  | 46       | 16       | 0 614600290100  | 1   | 0 614700290100 | 1 |
| 3,00                  | 46       | 16       | 0 614600300100  | 1   | 0 614700300100 | 1 |
| 3,10                  | 49       | 18       | 0 614600310100  | 1   | 0 614700310100 | 1 |
| 3,20                  | 49       | 18       | 0 614600320100  | 1   | 0 614700320100 | 1 |
| 3,30                  | 49       | 18       | 0 614600330100  | 1   | 0 614700330100 | 1 |
| 3,40                  | 52       | 20       | 0 614600340100  | 1   | 0 614700340100 | 1 |
| 3,50                  | 52       | 20       | 0 614600350100  | 1   | 0 614700350100 | 1 |
| 3,60                  | 52       | 20       | 0 614600360100  | 1   | 0 614700360100 | 1 |
| 3,70                  | 52       | 20       | 0 614600370100  | 1   | 0 614700370100 | 1 |
| 3,80                  | 55       | 22       | 0 614600380100  | 1   | 0 614700380100 | 1 |
| 3,90                  | 55       | 22       | 0 614600390100  | 1   | 0 614700390100 | 1 |
| 4,00                  | 55       | 22       | 0 614600400100  | 1   | 0 614700400100 | 1 |
| 4,10                  | 55       | 22       | 0 614600410100  | 1   | 0 614700410100 | 1 |
| 4,20                  | 55       | 22       | 0 614600420100  | 1   | 0 614700420100 | 1 |
| 4,30                  | 58       | 24       | 0 614600430100  | 1   | 0 614700430100 | 1 |
| 4,40                  | 58       | 24       | 0 614600440100  | 1   | 0 614700440100 | 1 |
| 4,50                  | 58       | 24       | 0 614600450100  | 1   | 0 614700450100 | 1 |
| 4,60                  | 58       | 24       | 0 614600460100  | 1   | 0 614700460100 | 1 |
| 4,70                  | 58       | 24       | 0 614600470100  | 1   | 0 614700470100 | 1 |
| 4,80                  | 62       | 26       | 0 614600480100  | 1   | 0 614700480100 | 1 |
| 4,90                  | 62       | 26       | 0 614600490100  | 1   | 0 614700490100 | 1 |
| 5,00                  | 62       | 26       | 0 614600500100  | 1   | 0 614700500100 | 1 |
| 5,10                  | 62       | 26       | 0 614600510100  | 1   | 0 614700510100 | 1 |
| 5,20                  | 62       | 26       | 0 614600520100  | 1   | 0 614700520100 | 1 |
| 5,30                  | 62       | 26       | 0 614600530100  | 1   | 0 614700530100 | 1 |
| 5,40                  | 66       | 28       | 0 614600540100  | 1   | 0 614700540100 | 1 |
| 5,50                  | 66       | 28       | 0 614600550100  | 1   | 0 614700550100 | 1 |
| 5,60                  | 66       | 28       | 0 614600560100  | 1   | 0 614700560100 | 1 |
| 5,70                  | 66       | 28       | 0 614600570100  | 1   | 0 614700570100 | 1 |
| 5,80                  | 66       | 28       | 0 614600580100  | 1   | 0 614700580100 | 1 |
| 5,90                  | 66       | 28       | 0 614600590100  | 1   | 0 614700590100 | 1 |
| 6,00                  | 66       | 28       | 0 614600600100  | 1   | 0 614700600100 | 1 |
| 6,10                  | 70       | 31       | 0 614600610100  | 1   | 0 614700610100 | 1 |
| 6,20                  | 70       | 31       | 0 614600620100  | 1   | 0 614700620100 | 1 |
| 6,30                  | 70       | 31       | 0 614600630100  | 1   | 0 614700630100 | 1 |
| 6,40                  | 70       | 31       | 0 614600640100  | 1   | 0 614700640100 | 1 |
| 6,50                  | 70       | 31       | 0 614600650100  | 1   | 0 614700650100 | 1 |
| 6,60                  | 70       | 31       | 0 614600660100  | 1   | 0 614700660100 | 1 |
| 6,70                  | 70       | 31       | 0 614600670100  | 1   | 0 614700670100 | 1 |
| 6,80                  | 74       | 34       | 0 614600680100  | 1   | 0 614700680100 | 1 |
| 6,90                  | 74       | 34       | 0 614600690100  | 1   | 0 614700690100 | 1 |
| 7,00                  | 74       | 34       | 0 614600700100  | 1   | 0 614700700100 | 1 |
| 7,10                  | 74       | 34       | 0 614600710100  | 1   | 0 614700710100 | 1 |
| 7,20                  | 74       | 34       | 0 614600720100  | 1   | 0 614700720100 | 1 |
| 7,30                  | 74       | 34       | 0 614600730100  | 1   | 0 614700730100 | 1 |
| 7,40                  | 74       | 34       | 0 614600740100  | 1   | 0 614700740100 | 1 |
| 7,50                  | 74       | 34       | 0 614600750100  | 1   | 0 614700750100 | 1 |
| 7,60                  | 79       | 36       | 0 614600760100  | 1   | 0 614700760100 | 1 |
| 7,70                  | 79       | 36       | 0 614600770100  | 1   | 0 614700770100 | 1 |
| 7,80                  | 79       | 36       | 0 614600780100  | 1   | 0 614700780100 | 1 |
| 7,90                  | 79       | 36       | 0 614600790100  | 1   | 0 614700790100 | 1 |
| 8,00                  | 79       | 36       | 0 614600800100  | 1   | 0 614700800100 | 1 |
| 8,10                  | 79       | 36       | 0 614600810100  | 1   | 0 614700810100 | 1 |
| 8,20                  | 79       | 36       | 0 614600820100  | 1   | 0 614700820100 | 1 |
| 8,30                  | 79       | 36       | 0 614600830100  | 1   | 0 614700830100 | 1 |
| 8,40                  | 79       | 36       | 0 614600840100  | 1   | 0 614700840100 | 1 |



Hartmetall Werkzeuge  
Tungsten carbide tools  
Herramientas de metal duro

|                          |          |          | Einzelverpackung<br>Single packing<br>Embalaje individual |               | Einzelverpackung<br>Single packing<br>Embalaje individual |               |
|--------------------------|----------|----------|---|---------------|---|---------------|
| $\varnothing_{h7}$<br>mm | l1<br>mm | l2<br>mm | Code 6146<br>Art.-Nr.                                     | Inh.<br>Cont. | Code 6147<br>Art.-Nr.                                     | Inh.<br>Cont. |
|                          |          |          | blank   bright   brillante                                |               | ALUNIT®   |               |
| 8,50                     | 79       | 36       | 0 614600850100  | 1             | 0 614700850100  | 1             |
| 8,60                     | 84       | 40       | 0 614600860100  | 1             | 0 614700860100  | 1             |
| 8,70                     | 84       | 40       | 0 614600870100  | 1             | 0 614700870100  | 1             |
| 8,80                     | 84       | 40       | 0 614600880100  | 1             | 0 614700880100  | 1             |
| 8,90                     | 84       | 40       | 0 614600890100  | 1             | 0 614700890100  | 1             |
| 9,00                     | 84       | 40       | 0 614600900100  | 1             | 0 614700900100  | 1             |
| 9,10                     | 84       | 40       | 0 614600910100  | 1             | 0 614700910100  | 1             |
| 9,20                     | 84       | 40       | 0 614600920100  | 1             | 0 614700920100  | 1             |
| 9,30                     | 84       | 40       | 0 614600930100  | 1             | 0 614700930100  | 1             |
| 9,40                     | 84       | 40       | 0 614600940100  | 1             | 0 614700940100  | 1             |
| 9,50                     | 84       | 40       | 0 614600950100  | 1             | 0 614700950100  | 1             |
| 9,60                     | 89       | 43       | 0 614600960100  | 1             | 0 614700960100  | 1             |
| 9,70                     | 89       | 43       | 0 614600970100  | 1             | 0 614700970100  | 1             |
| 9,80                     | 89       | 43       | 0 614600980100  | 1             | 0 614700980100  | 1             |
| 9,90                     | 89       | 43       | 0 614600990100  | 1             | 0 614700990100  | 1             |
| 10,00                    | 89       | 43       | 0 614601000100  | 1             | 0 614701000100  | 1             |
| 10,20                    | 89       | 43       | 0 614601020100  | 1             | 0 614701020100  | 1             |
| 10,50                    | 89       | 43       | 0 614601050100  | 1             | 0 614701050100  | 1             |
| 10,80                    | 95       | 47       | 0 614601080100  | 1             | 0 614701080100  | 1             |
| 11,00                    | 95       | 47       | 0 614601100100  | 1             | 0 614701100100  | 1             |
| 11,50                    | 95       | 47       | 0 614601150100  | 1             | 0 614701150100  | 1             |
| 12,00                    | 102      | 51       | 0 614601200100  | 1             | 0 614701200100  | 1             |
| 12,50                    | 102      | 51       | 0 614601250100  | 1             | 0 614701250100  | 1             |
| 13,00                    | 102      | 51       | 0 614601300100  | 1             | 0 614701300100  | 1             |
| 13,50                    | 107      | 54       | 0 614601350100  | 1             | 0 614701350100  | 1             |
| 14,00                    | 107      | 54       | 0 614601400100  | 1             | 0 614701400100  | 1             |
| 14,50                    | 111      | 56       | 0 614601450100  | 1             |   |               |
| 15,00                    | 111      | 56       | 0 614601500100  | 1             |   |               |
| 15,50                    | 115      | 58       | 0 614601550100  | 1             |   |               |
| 16,00                    | 115      | 58       | 0 614601600100  | 1             |   |               |
| 16,50                    | 119      | 60       | 0 614601650100  | 1             |   |               |
| 17,00                    | 119      | 60       | 0 614601700100  | 1             |   |               |
| 17,50                    | 123      | 62       | 0 614601750100  | 1             |   |               |
| 18,00                    | 123      | 62       | 0 614601800100  | 1             |   |               |
| 18,50                    | 127      | 64       | 0 614601850100  | 1             |   |               |
| 19,00                    | 127      | 64       | 0 614601900100  | 1             |   |               |
| 19,50                    | 131      | 66       | 0 614601950100  | 1             |   |               |
| 20,00                    | 131      | 66       | 0 614602000100  | 1             |   |               |

Code 6146



Code 6147



**D Vollhartmetall-Spiralbohrer, lang, DIN 338**

**E Solid carbide jobber drills, DIN 338**

**I Broca espiral de metal duro y macizo, larga, DIN 338**

**Einsatzbereich:**

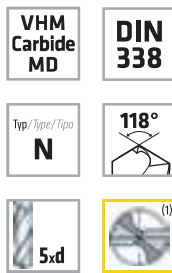
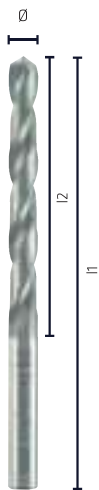
Besonders geeignet zum Bohren von hochfesten Stählen, Cr-Ni-Stählen, Hartguss, Grauguss, Stahlguss, Mn-Hartstahl, Bronze, Aluminium mit hohem Siliziumanteil und anderen schwer zerspanbaren Werkstoffen (beschichtete Ausführung).

**Range of application:**

Especially suitable for drilling heat resistant steels, Cr-Ni steels, high carbon steel castings, grey cast iron, cast steels, manganese steels, bronze, aluminium with high percentage silicon and other difficult-to-machine materials (coated design).

**Aplicación:**

Especialmente adecuada para el taladrado de aceros de alta resistencia, aceros al cromo-níquel, fundición blanca, hierro fundido gris, fundición de acero, acero duro con manganeso, bronce, aluminio con contenido elevado de silicio y otros materiales difícilmente mecanizables con virutaje (diseño recubierto).



Einzelverpackung  
Single packing  
Embalaje individual



Einzelverpackung  
Single packing  
Embalaje individual

**ALUNIT®**  
höhere Performance, längere Standzeit  
higher performance, longer durability  
Rendimiento superior tiempo de uso más prolongado

| Ø <sub>h7</sub><br>mm | l1<br>mm | l2<br>mm | Code 6156<br>Art.-Nr.      | Inh.<br>Cont. | Code 6157<br>Art.-Nr. | Inh.<br>Cont. |
|-----------------------|----------|----------|----------------------------|---------------|-----------------------|---------------|
|                       |          |          | blank   bright   brillante |               | ALUNIT®               |               |
| 1,00                  | 34       | 12       | 0 615600100100             | 1             | 0 615700100100        | 1             |
| 1,10                  | 36       | 14       | 0 615600110100             | 1             | 0 615700110100        | 1             |
| 1,20                  | 38       | 16       | 0 615600120100             | 1             | 0 615700120100        | 1             |
| 1,30                  | 38       | 16       | 0 615600130100             | 1             | 0 615700130100        | 1             |
| 1,40                  | 40       | 18       | 0 615600140100             | 1             | 0 615700140100        | 1             |
| 1,50                  | 40       | 18       | 0 615600150100             | 1             | 0 615700150100        | 1             |
| 1,60                  | 43       | 20       | 0 615600160100             | 1             | 0 615700160100        | 1             |
| 1,70                  | 43       | 20       | 0 615600170100             | 1             | 0 615700170100        | 1             |
| 1,80                  | 46       | 22       | 0 615600180100             | 1             | 0 615700180100        | 1             |
| 1,90                  | 46       | 22       | 0 615600190100             | 1             | 0 615700190100        | 1             |
| 2,00                  | 49       | 24       | 0 615600200100             | 1             | 0 615700200100        | 1             |
| 2,10                  | 49       | 24       | 0 615600210100             | 1             | 0 615700210100        | 1             |
| 2,20                  | 53       | 27       | 0 615600220100             | 1             | 0 615700220100        | 1             |
| 2,30                  | 53       | 27       | 0 615600230100             | 1             | 0 615700230100        | 1             |
| 2,40                  | 57       | 30       | 0 615600240100             | 1             | 0 615700240100        | 1             |
| 2,50                  | 57       | 30       | 0 615600250100             | 1             | 0 615700250100        | 1             |
| 2,60                  | 57       | 30       | 0 615600260100             | 1             | 0 615700260100        | 1             |
| 2,70                  | 61       | 33       | 0 615600270100             | 1             | 0 615700270100        | 1             |
| 2,80                  | 61       | 33       | 0 615600280100             | 1             | 0 615700280100        | 1             |
| 2,90                  | 61       | 33       | 0 615600290100             | 1             | 0 615700290100        | 1             |
| 3,00                  | 61       | 33       | 0 615600300100             | 1             | 0 615700300100        | 1             |
| 3,10                  | 65       | 36       | 0 615600310100             | 1             | 0 615700310100        | 1             |
| 3,20                  | 65       | 36       | 0 615600320100             | 1             | 0 615700320100        | 1             |
| 3,30                  | 65       | 36       | 0 615600330100             | 1             | 0 615700330100        | 1             |

<sup>1)</sup> ≤ Ø 2,90 mm 4-Flächenanschliff / 4-faced point shape / Punta afilada cuádruple  
≥ Ø 3,00 mm 6-Flächenanschliff / 6-faced point shape / Punta afilada de 6 caras

|                          |          |          | Einzelverpackung<br>Single packing<br>Embalaje individual |               | Einzelverpackung<br>Single packing<br>Embalaje individual |               |
|--------------------------|----------|----------|---|---------------|---|---------------|
| $\varnothing_{H7}$<br>mm | l1<br>mm | l2<br>mm | Code 6156<br>Art.-Nr.                                     | Inh.<br>Cont. | Code 6157<br>Art.-Nr.                                     | Inh.<br>Cont. |
|                          |          |          | blank   bright   brillante                                |               | ALUNIT®   |               |
| 3,40                     | 70       | 39       | 0 615600340100  | 1             | 0 615700340100  | 1             |
| 3,50                     | 70       | 39       | 0 615600350100  | 1             | 0 615700350100  | 1             |
| 3,60                     | 70       | 39       | 0 615600360100  | 1             | 0 615700360100  | 1             |
| 3,70                     | 70       | 39       | 0 615600370100  | 1             | 0 615700370100  | 1             |
| 3,80                     | 75       | 43       | 0 615600380100  | 1             | 0 615700380100  | 1             |
| 3,90                     | 75       | 43       | 0 615600390100  | 1             | 0 615700390100  | 1             |
| 4,00                     | 75       | 43       | 0 615600400100  | 1             | 0 615700400100  | 1             |
| 4,10                     | 75       | 43       | 0 615600410100  | 1             | 0 615700410100  | 1             |
| 4,20                     | 75       | 43       | 0 615600420100  | 1             | 0 615700420100  | 1             |
| 4,30                     | 80       | 47       | 0 615600430100  | 1             | 0 615700430100  | 1             |
| 4,40                     | 80       | 47       | 0 615600440100  | 1             | 0 615700440100  | 1             |
| 4,50                     | 80       | 47       | 0 615600450100  | 1             | 0 615700450100  | 1             |
| 4,60                     | 80       | 47       | 0 615600460100  | 1             | 0 615700460100  | 1             |
| 4,70                     | 80       | 47       | 0 615600470100  | 1             | 0 615700470100  | 1             |
| 4,80                     | 86       | 52       | 0 615600480100  | 1             | 0 615700480100  | 1             |
| 4,90                     | 86       | 52       | 0 615600490100  | 1             | 0 615700490100  | 1             |
| 5,00                     | 86       | 52       | 0 615600500100  | 1             | 0 615700500100  | 1             |
| 5,10                     | 86       | 52       | 0 615600510100  | 1             | 0 615700510100  | 1             |
| 5,20                     | 86       | 52       | 0 615600520100  | 1             | 0 615700520100  | 1             |
| 5,30                     | 86       | 52       | 0 615600530100  | 1             | 0 615700530100  | 1             |
| 5,40                     | 93       | 57       | 0 615600540100  | 1             | 0 615700540100  | 1             |
| 5,50                     | 93       | 57       | 0 615600550100  | 1             | 0 615700550100  | 1             |
| 5,60                     | 93       | 57       | 0 615600560100  | 1             | 0 615700560100  | 1             |
| 5,70                     | 93       | 57       | 0 615600570100  | 1             | 0 615700570100  | 1             |
| 5,80                     | 93       | 57       | 0 615600580100  | 1             | 0 615700580100  | 1             |
| 5,90                     | 93       | 57       | 0 615600590100  | 1             | 0 615700590100  | 1             |
| 6,00                     | 93       | 57       | 0 615600600100  | 1             | 0 615700600100  | 1             |
| 6,10                     | 101      | 63       | 0 615600610100  | 1             | 0 615700610100  | 1             |
| 6,20                     | 101      | 63       | 0 615600620100  | 1             | 0 615700620100  | 1             |
| 6,30                     | 101      | 63       | 0 615600630100  | 1             | 0 615700630100  | 1             |
| 6,40                     | 101      | 63       | 0 615600640100  | 1             | 0 615700640100  | 1             |
| 6,50                     | 101      | 63       | 0 615600650100  | 1             | 0 615700650100  | 1             |
| 6,60                     | 101      | 63       | 0 615600660100  | 1             | 0 615700660100  | 1             |
| 6,70                     | 101      | 63       | 0 615600670100  | 1             | 0 615700670100  | 1             |
| 6,80                     | 109      | 69       | 0 615600680100  | 1             | 0 615700680100  | 1             |
| 6,90                     | 109      | 69       | 0 615600690100  | 1             | 0 615700690100  | 1             |
| 7,00                     | 109      | 69       | 0 615600700100  | 1             | 0 615700700100  | 1             |
| 7,10                     | 109      | 69       | 0 615600710100  | 1             | 0 615700710100  | 1             |
| 7,20                     | 109      | 69       | 0 615600720100  | 1             | 0 615700720100  | 1             |
| 7,30                     | 109      | 69       | 0 615600730100  | 1             | 0 615700730100  | 1             |
| 7,40                     | 109      | 69       | 0 615600740100  | 1             | 0 615700740100  | 1             |
| 7,50                     | 109      | 69       | 0 615600750100  | 1             | 0 615700750100  | 1             |
| 7,60                     | 117      | 75       | 0 615600760100  | 1             | 0 615700760100  | 1             |
| 7,70                     | 117      | 75       | 0 615600770100  | 1             | 0 615700770100  | 1             |
| 7,80                     | 117      | 75       | 0 615600780100  | 1             | 0 615700780100  | 1             |
| 7,90                     | 117      | 75       | 0 615600790100  | 1             | 0 615700790100  | 1             |
| 8,00                     | 117      | 75       | 0 615600800100  | 1             | 0 615700800100  | 1             |
| 8,10                     | 117      | 75       | 0 615600810100  | 1             | 0 615700810100  | 1             |
| 8,20                     | 117      | 75       | 0 615600820100  | 1             | 0 615700820100  | 1             |
| 8,30                     | 117      | 75       | 0 615600830100  | 1             | 0 615700830100  | 1             |
| 8,40                     | 117      | 75       | 0 615600840100  | 1             | 0 615700840100  | 1             |
| 8,50                     | 117      | 75       | 0 615600850100  | 1             | 0 615700850100  | 1             |
| 8,60                     | 125      | 81       | 0 615600860100  | 1             | 0 615700860100  | 1             |
| 8,70                     | 125      | 81       | 0 615600870100  | 1             | 0 615700870100  | 1             |
| 8,80                     | 125      | 81       | 0 615600880100  | 1             | 0 615700880100  | 1             |
| 8,90                     | 125      | 81       | 0 615600890100  | 1             | 0 615700890100  | 1             |

| Ø <sub>h7</sub><br>mm | l1<br>mm | l2<br>mm | Einzelverpackung<br><i>Single packing</i><br><i>Embalaje individual</i> |               | Einzelverpackung<br><i>Single packing</i><br><i>Embalaje individual</i> |               |
|-----------------------|----------|----------|---|---------------|---|---------------|
|                       |          |          | Code 6156<br>Art.-Nr.   | Inh.<br>Cont. | Code 6157<br>Art.-Nr.   | Inh.<br>Cont. |
|                       |          |          | blank   bright   brillante  |               | ALUNIT®   |               |
| 9,00                  | 125      | 81       | 0 615600900100  | 1             | 0 615700900100  | 1             |
| 9,10                  | 125      | 81       | 0 615600910100  | 1             | 0 615700910100  | 1             |
| 9,20                  | 125      | 81       | 0 615600920100  | 1             | 0 615700920100  | 1             |
| 9,30                  | 125      | 81       | 0 615600930100  | 1             | 0 615700930100  | 1             |
| 9,40                  | 125      | 81       | 0 615600940100  | 1             | 0 615700940100  | 1             |
| 9,50                  | 125      | 81       | 0 615600950100  | 1             | 0 615700950100  | 1             |
| 9,60                  | 133      | 87       | 0 615600960100  | 1             | 0 615700960100  | 1             |
| 9,70                  | 133      | 87       | 0 615600970100  | 1             | 0 615700970100  | 1             |
| 9,80                  | 133      | 87       | 0 615600980100  | 1             | 0 615700980100  | 1             |
| 9,90                  | 133      | 87       | 0 615600990100  | 1             | 0 615700990100  | 1             |
| 10,00                 | 133      | 87       | 0 615601000100  | 1             | 0 615701000100  | 1             |
| 10,20                 | 133      | 87       | 0 615601020100  | 1             | 0 615701020100  | 1             |
| 10,50                 | 133      | 87       | 0 615601050100  | 1             | 0 615701050100  | 1             |
| 10,80                 | 142      | 94       | 0 615601080100  | 1             | 0 615701080100  | 1             |
| 11,00                 | 142      | 94       | 0 615601100100  | 1             | 0 615701100100  | 1             |
| 11,50                 | 142      | 94       | 0 615601150100  | 1             | 0 615701150100  | 1             |
| 12,00                 | 151      | 101      | 0 615601200100  | 1             | 0 615701200100  | 1             |
| 12,50                 | 151      | 101      | 0 615601250100  | 1             | 0 615701250100  | 1             |
| 13,00                 | 151      | 101      | 0 615601300100  | 1             | 0 615701300100  | 1             |
| 13,50                 | 160      | 108      | 0 615601350100  | 1             | 0 615701350100  | 1             |
| 14,00                 | 160      | 108      | 0 615601400100  | 1             | 0 615701400100  | 1             |
| 14,50                 | 169      | 114      | 0 615601450100  | 1             | 0 615701450100  | 1             |
| 15,00                 | 169      | 114      | 0 615601500100  | 1             | 0 615701500100  | 1             |
| 15,50                 | 178      | 120      | 0 615601550100  | 1             | 0 615701550100  | 1             |
| 16,00                 | 178      | 120      | 0 615601600100  | 1             | 0 615701600100  | 1             |



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