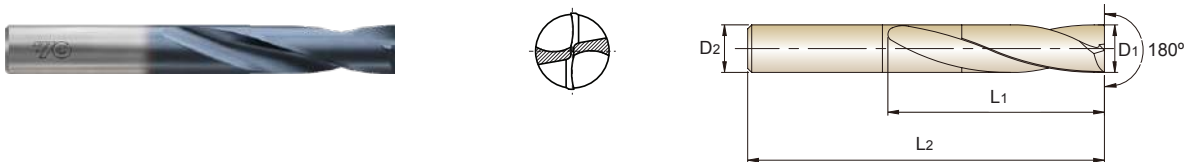


X-COATED SOLID CARBIDE DREAM DRILLS

Flat Bottom without Coolant Holes (2XD)

DPP447 SERIES

- For holes on various angled surfaces.
- 180 degree point angle enables drilling of flat, inclined and curved surfaces.
- Optimized flute shape for excellent chip evacuation.
- High strength cutting edge to improve tool life and versatility drilling.
- For through holes, minimized burrs at entrance and exit when drilling thin plate.



SHORT

2 × D

| Unit : mm |                |                |              |                |           |                |                |              |                |
|-----------|----------------|----------------|--------------|----------------|-----------|----------------|----------------|--------------|----------------|
| EDP No.   | Drill Diameter | Shank Diameter | Flute Length | Overall Length | EDP No.   | Drill Diameter | Shank Diameter | Flute Length | Overall Length |
| X-Coating | D1             | D2             | L1           | L2             | X-Coating | D1             | D2             | L1           | L2             |
| DPP447030 | 3.0            | 6              | 16           | 50             | DPP447056 | 5.6            | 6              | 24           | 60             |
| DPP447031 | 3.1            | 6              | 16           | 50             | DPP447057 | 5.7            | 6              | 26           | 60             |
| DPP447032 | 3.2            | 6              | 16           | 50             | DPP447058 | 5.8            | 6              | 26           | 60             |
| DPP447033 | 3.3            | 6              | 16           | 50             | DPP447059 | 5.9            | 6              | 26           | 60             |
| DPP447034 | 3.4            | 6              | 18           | 50             | DPP447060 | 6.0            | 6              | 26           | 60             |
| DPP447035 | 3.5            | 6              | 18           | 50             | DPP447061 | 6.1            | 8              | 28           | 70             |
| DPP447036 | 3.6            | 6              | 18           | 50             | DPP447062 | 6.2            | 8              | 28           | 70             |
| DPP447037 | 3.7            | 6              | 18           | 50             | DPP447063 | 6.3            | 8              | 28           | 70             |
| DPP447038 | 3.8            | 6              | 18           | 50             | DPP447064 | 6.4            | 8              | 30           | 70             |
| DPP447039 | 3.9            | 6              | 18           | 50             | DPP447065 | 6.5            | 8              | 30           | 70             |
| DPP447040 | 4.0            | 6              | 18           | 50             | DPP447066 | 6.6            | 8              | 30           | 70             |
| DPP447041 | 4.1            | 6              | 20           | 60             | DPP447067 | 6.7            | 8              | 30           | 70             |
| DPP447042 | 4.2            | 6              | 20           | 60             | DPP447068 | 6.8            | 8              | 30           | 70             |
| DPP447043 | 4.3            | 6              | 20           | 60             | DPP447069 | 6.9            | 8              | 30           | 70             |
| DPP447044 | 4.4            | 6              | 20           | 60             | DPP447070 | 7.0            | 8              | 30           | 70             |
| DPP447045 | 4.5            | 6              | 22           | 60             | DPP447071 | 7.1            | 8              | 34           | 70             |
| DPP447046 | 4.6            | 6              | 22           | 60             | DPP447072 | 7.2            | 8              | 34           | 70             |
| DPP447047 | 4.7            | 6              | 22           | 60             | DPP447073 | 7.3            | 8              | 34           | 70             |
| DPP447048 | 4.8            | 6              | 22           | 60             | DPP447074 | 7.4            | 8              | 34           | 70             |
| DPP447049 | 4.9            | 6              | 22           | 60             | DPP447075 | 7.5            | 8              | 34           | 70             |
| DPP447050 | 5.0            | 6              | 22           | 60             | DPP447076 | 7.6            | 8              | 34           | 70             |
| DPP447051 | 5.1            | 6              | 24           | 60             | DPP447077 | 7.7            | 8              | 34           | 70             |
| DPP447052 | 5.2            | 6              | 24           | 60             | DPP447078 | 7.8            | 8              | 34           | 70             |
| DPP447053 | 5.3            | 6              | 24           | 60             | DPP447079 | 7.9            | 8              | 34           | 70             |
| DPP447054 | 5.4            | 6              | 24           | 60             | DPP447080 | 8.0            | 8              | 34           | 70             |
| DPP447055 | 5.5            | 6              | 24           | 60             | DPP447081 | 8.1            | 10             | 38           | 80             |

► Other diameters and shank types are available upon request. ► NEXT PAGE

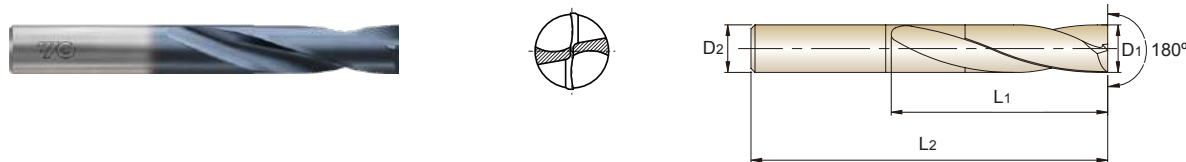
| © : Excellent ○ : Good |                        |     |                        |     |     |                                           |     |     |                        |                                    |                             |                 |     |     |                 |        |                   |     |                     |     |                    |  |
|------------------------|------------------------|-----|------------------------|-----|-----|-------------------------------------------|-----|-----|------------------------|------------------------------------|-----------------------------|-----------------|-----|-----|-----------------|--------|-------------------|-----|---------------------|-----|--------------------|--|
| ISO                    | P                      |     |                        |     |     |                                           |     |     |                        |                                    | M                           |                 |     |     | K               |        |                   |     |                     |     |                    |  |
| Material Description   | Non-alloy steel        |     |                        |     |     | Low alloy steel                           |     |     |                        | High alloyed steel, and tool steel |                             | Stainless steel |     |     | Grey cast iron  |        | Nodular cast iron |     | Malleable cast iron |     |                    |  |
| VDI 3323               | 1                      | 2   | 3                      | 4   | 5   | 6                                         | 7   | 8   | 9                      | 10                                 | 11                          | 12              | 13  | 14  | 15              | 16     | 17                | 18  | 19                  | 20  |                    |  |
| HRC                    |                        | 13  | 25                     | 28  | 32  | 10                                        | 29  | 32  | 38                     | 15                                 | 35                          | 15              | 23  | 10  | 15              | 26     | 3                 | 25  |                     | 21  |                    |  |
| HB                     | 125                    | 190 | 250                    | 270 | 300 | 180                                       | 275 | 300 | 350                    | 200                                | 325                         | 200             | 240 | 180 | 180             | 260    | 160               | 250 | 130                 | 230 |                    |  |
| Recommended            | ◎                      | ◎   | ◎                      | ○   | ○   | ◎                                         | ○   | ○   | ○                      |                                    |                             | ○               |     |     | ◎               | ○      |                   |     |                     |     |                    |  |
| ISO                    | N                      |     |                        |     |     |                                           |     |     |                        |                                    | S                           |                 |     |     | H               |        |                   |     |                     |     |                    |  |
| Material Description   | Aluminum-wrought alloy |     | Aluminum-cast, alloyed |     |     | Copper and Copper Alloys (Bronze / Brass) |     |     | Non Metallic Materials |                                    | Heat Resistant Super Alloys |                 |     |     | Titanium Alloys |        | Hardened steel    |     | Chilled Cast Iron   |     | Hardened Cast Iron |  |
| VDI 3323               | 21                     | 22  | 23                     | 24  | 25  | 26                                        | 27  | 28  | 29                     | 30                                 | 31                          | 32              | 33  | 34  | 35              | 36     | 37                | 38  | 39                  | 40  | 41                 |  |
| HRC                    |                        |     |                        |     |     |                                           |     |     |                        |                                    | 15                          | 30              | 25  | 38  | 34              | 55     | 60                | 55  | 60                  | 42  | 55                 |  |
| HB                     | 60                     | 100 | 75                     | 90  | 130 | 110                                       | 90  | 100 |                        |                                    | 200                         | 280             | 250 | 350 | 320             | 400 Rm | 1050 Rm           | 550 | 630                 | 400 | 550                |  |
| Recommended            | ○                      | ○   |                        |     |     |                                           |     |     |                        |                                    |                             |                 |     |     |                 |        |                   |     |                     |     |                    |  |

X-COATED SOLID CARBIDE DREAM DRILLS

Flat Bottom without Coolant Holes (2XD)

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SHORT

2 × D

| Unit : mm |                |                |              |                |           |                |                |              |                |
|-----------|----------------|----------------|--------------|----------------|-----------|----------------|----------------|--------------|----------------|
| EDP No.   | Drill Diameter | Shank Diameter | Flute Length | Overall Length | EDP No.   | Drill Diameter | Shank Diameter | Flute Length | Overall Length |
| X-Coating | D1             | D2             | L1           | L2             | X-Coating | D1             | D2             | L1           | L2             |
| DPP447082 | 8.2            | 10             | 38           | 80             | DPP447110 | 11.0           | 12             | 48           | 90             |
| DPP447083 | 8.3            | 10             | 38           | 80             | DPP447111 | 11.1           | 12             | 50           | 90             |
| DPP447084 | 8.4            | 10             | 38           | 80             | DPP447112 | 11.2           | 12             | 50           | 90             |
| DPP447085 | 8.5            | 10             | 38           | 80             | DPP447113 | 11.3           | 12             | 50           | 90             |
| DPP447086 | 8.6            | 10             | 38           | 80             | DPP447114 | 11.4           | 12             | 50           | 90             |
| DPP447087 | 8.7            | 10             | 40           | 80             | DPP447115 | 11.5           | 12             | 50           | 90             |
| DPP447088 | 8.8            | 10             | 40           | 80             | DPP447116 | 11.6           | 12             | 50           | 90             |
| DPP447089 | 8.9            | 10             | 40           | 80             | DPP447117 | 11.7           | 12             | 52           | 90             |
| DPP447090 | 9.0            | 10             | 40           | 80             | DPP447118 | 11.8           | 12             | 52           | 90             |
| DPP447091 | 9.1            | 10             | 42           | 80             | DPP447119 | 11.9           | 12             | 52           | 90             |
| DPP447092 | 9.2            | 10             | 42           | 80             | DPP447120 | 12.0           | 12             | 52           | 90             |
| DPP447093 | 9.3            | 10             | 42           | 80             | DPP447125 | 12.5           | 14             | 54           | 100            |
| DPP447094 | 9.4            | 10             | 42           | 80             | DPP447130 | 13.0           | 14             | 56           | 100            |
| DPP447095 | 9.5            | 10             | 42           | 80             | DPP447135 | 13.5           | 14             | 58           | 100            |
| DPP447096 | 9.6            | 10             | 42           | 80             | DPP447140 | 14.0           | 14             | 58           | 100            |
| DPP447097 | 9.7            | 10             | 45           | 80             | DPP447145 | 14.5           | 16             | 62           | 105            |
| DPP447098 | 9.8            | 10             | 45           | 80             | DPP447150 | 15.0           | 16             | 62           | 105            |
| DPP447099 | 9.9            | 10             | 45           | 80             | DPP447155 | 15.5           | 16             | 64           | 115            |
| DPP447100 | 10.0           | 10             | 45           | 80             | DPP447160 | 16.0           | 16             | 64           | 115            |
| DPP447101 | 10.1           | 12             | 46           | 90             | DPP447165 | 16.5           | 18             | 70           | 125            |
| DPP447102 | 10.2           | 12             | 46           | 90             | DPP447170 | 17.0           | 18             | 70           | 125            |
| DPP447103 | 10.3           | 12             | 46           | 90             | DPP447175 | 17.5           | 18             | 70           | 125            |
| DPP447104 | 10.4           | 12             | 48           | 90             | DPP447180 | 18.0           | 18             | 70           | 125            |
| DPP447105 | 10.5           | 12             | 48           | 90             | DPP447185 | 18.5           | 20             | 75           | 135            |
| DPP447106 | 10.6           | 12             | 48           | 90             | DPP447190 | 19.0           | 20             | 75           | 135            |
| DPP447107 | 10.7           | 12             | 48           | 90             | DPP447195 | 19.5           | 20             | 75           | 145            |
| DPP447108 | 10.8           | 12             | 48           | 90             | DPP447200 | 20.0           | 20             | 75           | 145            |
| DPP447109 | 10.9           | 12             | 48           | 90             |           |                |                |              |                |

► Other diameters and shank types are available upon request. © : Excellent ○ : Good

| © : Excellent ○ : Good |                        |     |                        |     |                                           |                 |                        |     |                             |     |                 |                |                   |                     |                |                   |                    |
|------------------------|------------------------|-----|------------------------|-----|-------------------------------------------|-----------------|------------------------|-----|-----------------------------|-----|-----------------|----------------|-------------------|---------------------|----------------|-------------------|--------------------|
| ISO                    | P                      |     |                        |     |                                           |                 |                        |     |                             |     | M               | K              |                   |                     |                |                   |                    |
| Material Description   | Non-alloy steel        |     |                        |     |                                           | Low alloy steel |                        |     |                             |     | Stainless steel | Grey cast iron | Nodular cast iron | Malleable cast iron |                |                   |                    |
| VDI 3323               | 1                      | 2   | 3                      | 4   | 5                                         | 6               | 7                      | 8   | 9                           | 10  | 11              | 12             | 13                | 14                  | 15             | 16                | 17                 |
| HRC                    |                        | 13  | 25                     | 28  | 32                                        | 10              | 29                     | 32  | 38                          | 15  | 35              | 15             | 23                | 10                  | 10             | 26                | 3                  |
| HB                     | 125                    | 190 | 250                    | 270 | 300                                       | 180             | 275                    | 300 | 350                         | 200 | 325             | 200            | 240               | 180                 | 160            | 250               | 130                |
| Recommended            | ◎                      | ◎   | ◎                      | ○   | ○                                         | ◎               | ○                      | ○   | ○                           | ○   | ○               | ◎              | ○                 |                     |                |                   |                    |
| ISO                    | N                      |     |                        |     |                                           |                 |                        |     |                             |     | S               |                |                   |                     | H              |                   |                    |
| Material Description   | Aluminum-wrought alloy |     | Aluminum-cast, alloyed |     | Copper and Copper Alloys (Bronze / Brass) |                 | Non Metallic Materials |     | Heat Resistant Super Alloys |     |                 |                | Titanium Alloys   |                     | Hardened steel | Chilled Cast Iron | Hardened Cast Iron |
| VDI 3323               | 21                     | 22  | 23                     | 24  | 25                                        | 26              | 27                     | 28  | 29                          | 30  | 31              | 32             | 33                | 34                  | 35             | 36                | 37                 |
| HRC                    |                        |     |                        |     |                                           |                 |                        |     |                             |     | 15              | 30             | 25                | 38                  | 34             | 55                | 60                 |
| HB                     | 60                     | 100 | 75                     | 90  | 130                                       | 110             | 90                     | 100 |                             |     | 200             | 280            | 250               | 350                 | 320            | 400 Rm            | 1050 Rm            |
| Recommended            | ○                      | ○   |                        |     |                                           |                 |                        |     |                             |     |                 |                |                   |                     |                |                   |                    |