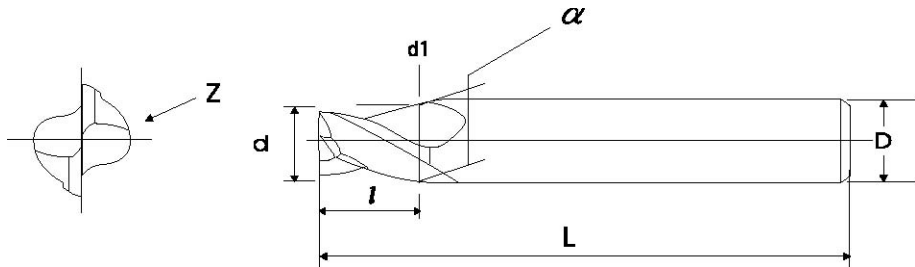


# Cutting Tools

## TAPERED SQUARE TYPE LONG FLUTE - 2 flutes

WC=90 Co=10 HV30 = 1571 Rupture=3750N/mm<sup>2</sup> Grain Size=0.6μm



TSL - Altin

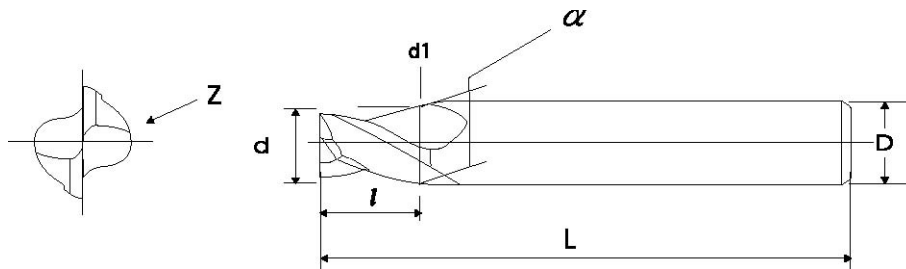
| MODE       | Diameter d | Flute Length l | Full Length L | Shank Diameter D | Half Included Angle α | Tip Diameter d1 | Flute No. Z |
|------------|------------|----------------|---------------|------------------|-----------------------|-----------------|-------------|
| TSL 010005 | 1          | 10             | 50            | 4                | 30"                   | 1.17            | 2           |
| TSL 010010 | 1          | 10             | 50            | 4                | 1°                    | 1.35            | 2           |
| TSL 010015 | 1          | 10             | 50            | 4                | 1°30"                 | 1.52            | 2           |
| TSL 010020 | 1          | 10             | 50            | 4                | 2°                    | 1.70            | 2           |
| TSL 010025 | 1          | 10             | 50            | 4                | 2°30"                 | 1.87            | 2           |
| TSL 010030 | 1          | 10             | 50            | 4                | 3°                    | 2.05            | 2           |
| TSL 010050 | 1          | 10             | 50            | 4                | 5°                    | 2.74            | 2           |
| TSL 010070 | 1          | 10             | 50            | 4                | 7°                    | 3.44            | 2           |
| TSL 015005 | 1.5        | 10             | 50            | 4                | 30"                   | 1.67            | 2           |
| TSL 015010 | 1.5        | 10             | 50            | 4                | 1°                    | 1.85            | 2           |
| TSL 015015 | 1.5        | 10             | 50            | 4                | 1°30"                 | 2.02            | 2           |
| TSL 015020 | 1.5        | 10             | 50            | 4                | 2°                    | 2.20            | 2           |
| TSL 015025 | 1.5        | 10             | 50            | 4                | 2°30"                 | 2.37            | 2           |
| TSL 015030 | 1.5        | 10             | 50            | 4                | 3°                    | 2.55            | 2           |
| TSL 015050 | 1.5        | 10             | 50            | 4                | 5°                    | 3.24            | 2           |
| TSL 015070 | 1.5        | 10             | 50            | 4                | 7°                    | 3.94            | 2           |
| TSL 020005 | 2          | 13             | 50            | 4                | 30"                   | 2.22            | 2           |
| TSL 020010 | 2          | 13             | 50            | 4                | 1°                    | 2.45            | 2           |
| TSL 020015 | 2          | 13             | 50            | 4                | 1°30"                 | 2.68            | 2           |
| TSL 020020 | 2          | 13             | 50            | 4                | 2°                    | 2.90            | 2           |
| TSL 020025 | 2          | 13             | 50            | 4                | 2°30"                 | 3.13            | 2           |
| TSL 020030 | 2          | 13             | 50            | 4                | 3°                    | 3.36            | 2           |
| TSL 020050 | 2          | 13             | 50            | 6                | 5°                    | 4.27            | 2           |
| TSL 020070 | 2          | 13             | 50            | 6                | 7°                    | 5.17            | 2           |
| TSL 025005 | 2.5        | 15             | 50            | 4                | 30"                   | 2.76            | 2           |
| TSL 025010 | 2.5        | 15             | 50            | 4                | 1°                    | 3.03            | 2           |
| TSL 025015 | 2.5        | 15             | 50            | 4                | 1°30"                 | 3.29            | 2           |
| TSL 025020 | 2.5        | 15             | 50            | 4                | 2°                    | 3.56            | 2           |
| TSL 025025 | 2.5        | 15             | 50            | 4                | 2°30"                 | 3.81            | 2           |
| TSL 025030 | 2.5        | 15             | 50            | 6                | 3°                    | 4.07            | 2           |
| TSL 025050 | 2.5        | 15             | 50            | 6                | 5°                    | 5.13            | 2           |



# Cutting Tools

## TAPERED SQUARE TYPE LONG FLUTE - 2 flutes

WC=90 Co=10 HV30 = 1571 Rupture=3750N/mm<sup>2</sup> Grain Size=0.6μm



TSL - Altin

| MODE       | Diameter<br>d | Flute<br>Length<br>l | Full<br>Length<br>L | Shank<br>Diameter<br>D | Half Included<br>Angle<br>α | Tip<br>Diameter<br>d1 | Flute<br>No.<br>Z |
|------------|---------------|----------------------|---------------------|------------------------|-----------------------------|-----------------------|-------------------|
| TSL 030005 | 3             | 20                   | 60                  | 6                      | 30"                         | 3.35                  | 2                 |
| TSL 030010 | 3             | 20                   | 60                  | 6                      | 1°                          | 3.7                   | 2                 |
| TSL 030015 | 3             | 20                   | 60                  | 6                      | 1°30"                       | 4.05                  | 2                 |
| TSL 030020 | 3             | 20                   | 60                  | 6                      | 2°                          | 4.39                  | 2                 |
| TSL 030025 | 3             | 20                   | 60                  | 6                      | 2°30"                       | 4.65                  | 2                 |
| TSL 030030 | 3             | 20                   | 60                  | 6                      | 3°                          | 5.1                   | 2                 |
| TSL 030050 | 3             | 20                   | 60                  | 8                      | 5°                          | 6.5                   | 2                 |
| TSL 040005 | 4             | 25                   | 60                  | 6                      | 30"                         | 4.44                  | 2                 |
| TSL 040010 | 4             | 25                   | 60                  | 6                      | 1°                          | 4.88                  | 2                 |
| TSL 040015 | 4             | 25                   | 60                  | 6                      | 1°30"                       | 5.13                  | 2                 |
| TSL 040020 | 4             | 25                   | 60                  | 6                      | 2°                          | 5.75                  | 2                 |
| TSL 040025 | 4             | 25                   | 60                  | 8                      | 2°30"                       | 6.19                  | 2                 |
| TSL 040030 | 4             | 25                   | 60                  | 8                      | 3°                          | 6.62                  | 2                 |
| TSL 040050 | 4             | 25                   | 75                  | 10                     | 5°                          | 8.38                  | 2                 |
| TSL 050005 | 5             | 30                   | 75                  | 6                      | 30"                         | 5.52                  | 2                 |
| TSL 050010 | 5             | 30                   | 75                  | 8                      | 1°                          | 6.05                  | 2                 |
| TSL 050015 | 5             | 30                   | 75                  | 8                      | 1°30"                       | 6.57                  | 2                 |
| TSL 050020 | 5             | 30                   | 75                  | 8                      | 2°                          | 7.09                  | 2                 |
| TSL 050025 | 5             | 30                   | 75                  | 8                      | 2°30"                       | 7.62                  | 2                 |
| TSL 050030 | 5             | 30                   | 75                  | 10                     | 3°                          | 8.14                  | 2                 |
| TSL 050050 | 5             | 30                   | 75                  | 12                     | 5°                          | 10.25                 | 2                 |
| TSL 060005 | 6             | 35                   | 75                  | 8                      | 30"                         | 6.61                  | 2                 |
| TSL 060010 | 6             | 35                   | 75                  | 8                      | 1°                          | 7.22                  | 2                 |
| TSL 060015 | 6             | 35                   | 75                  | 8                      | 1°30"                       | 7.83                  | 2                 |
| TSL 060020 | 6             | 35                   | 75                  | 10                     | 2°                          | 8.44                  | 2                 |
| TSL 060025 | 6             | 35                   | 100                 | 10                     | 2°30"                       | 9.05                  | 2                 |
| TSL 060030 | 6             | 35                   | 100                 | 10                     | 3°                          | 9.67                  | 2                 |
| TSL 060050 | 6             | 35                   | 100                 | 12                     | 5°                          | 12.12                 | 2                 |

