

ALESA DELTA

Less vibration even with longer tools



The new DELTA indexable inserts have six ground cutting edges and are mounted tangentially on the milling body. Various features of "Twist" have been taken over, including the 20° positive helix angle and the completely ground surfaces and angles. This high positive cutting approach not only means small cutting forces but also allows higher productivity on modern machining centres. The high helix angle in combination with the small cutting forces has a positive effect on the spindle load. Depending on the material, the workpiece is also less affected by work hardening and deformations due to strain. The tangential arrangement of the inserts produces maximum stiffness in the milling body thanks to stronger cross sections.

The large support surface in the insert seat allows good heat transfer and thermal stability, even in dry cutting. It has been demonstrated in practice that a good compromise between hardness (wear resistance), toughness (edge stability) and high-temperature strength is achieved. Combined with the proven AlCrN-VA coating, the high positive-ground cutting edges offer a very long tool life and high process safety.

Features

- Six ground cutting edges
- Mounted tangentially on the milling body
- Completely ground surfaces and angles
- Maximum stiffness
- Good heat transfer

Advantages

- Higher productivity by six ground cutting edges
- The high helix angle in combination with the small cutting forces has a positive effect on the spindle load
- Less vibration even with longer tools





ALESA DELTA end mill and threaded type cutter

TN 11 R 90° / Ø 25 – 32

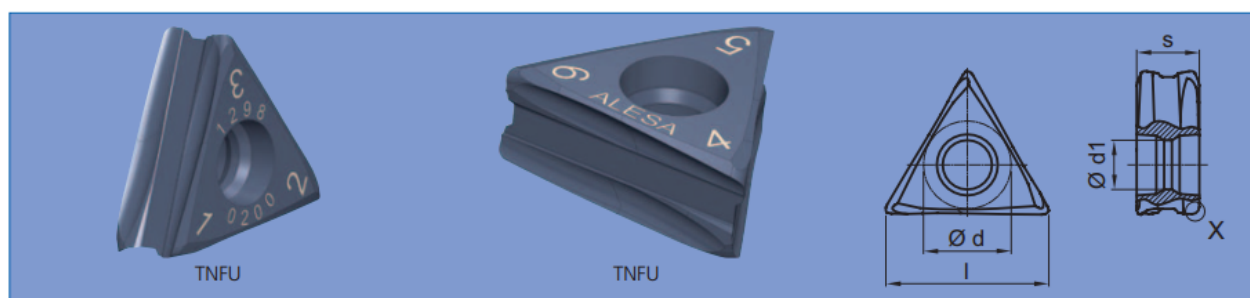
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| Part No | Type | D mm | l2 mm | d2 mm | G | l1 mm | | | | | Accessories kit No | WSP |
|-----------|------------|------|-------|-------|-----|-------|---|---|---|--|--------------------|----------|
| 1306.0382 | 25-TN 11 R | 25 | 38 | 20.0 | | 90 | ✓ | 4 | r | | 1494.0630 | TN 11 S4 |
| 1308.0382 | 25-TN 11 R | 25 | 35 | 12.5 | M12 | 55 | ✓ | 4 | r | | 1494.0630 | TN 11 S4 |
| 1306.0422 | 32-TN 11 R | 32 | 38 | 25.0 | | 96 | ✓ | 5 | r | | 1494.0635 | TN 11 S4 |
| 1308.0422 | 32-TN 11 R | 32 | 42 | 17.0 | M16 | 64 | ✓ | 5 | r | | 1494.0635 | TN 11 S4 |



| Part No | Type | D mm | H mm | d1 mm | d2 mm | l1 mm | ap mm | | | | Accessories kit No | WSP |
|-----------|------------|------|------|-------|-------|-------|-------|---|---|---|--------------------|----------|
| 1303.0463 | 43-TN 11 R | 43 | 32 | 16.0 | 8.5 | 18 | 8 | ✓ | 6 | r | 1494.0640 | TN 11 S4 |
| 1304.0463 | 43-TN 18 R | 43 | 32 | 16.0 | 8.5 | 18 | 13 | ✓ | 4 | r | 1494.0800 | TN 18 07 |
| 1304.0483 | 53-TN 18 R | 53 | 40 | 22.0 | 11 | 20 | 13 | ✓ | 6 | r | 1494.0801 | TN 18 07 |
| 1304.0503 | 66-TN 18 R | 66 | 40 | 22.0 | 11 | 20 | 13 | ✓ | 7 | r | 1494.0802 | TN 18 07 |
| 1304.0523 | 83-TN 18 R | 83 | 50 | 27.0 | 14 | 22 | 13 | ✓ | 9 | r | 1494.0803 | TN 18 07 |



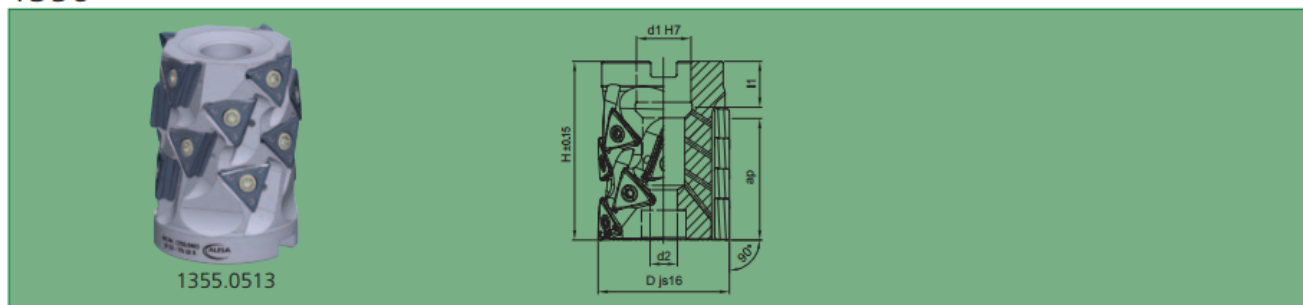
| Cutting material | Coating | Part No | ISO Code | l mm | s mm | d mm | d1 mm | Detail X | | | Mat. classification | | | | | |
|------------------|----------|-----------|--------------------|------|------|------|-------|----------|---|---|---------------------|---|---|---|---|---|
| | | | | | | | | | | | 1 | 2 | 3 | 4 | 5 | 6 |
| Carbide CTS | AlCrN-VA | 1297.0200 | TN 11 S4 04 FR-321 | 11.2 | 4.2 | 6 | 3.4 | R 0.4 | ● | ○ | ● | ● | ● | ○ | ● | ○ |
| | | 1297.0650 | TN 11 S4 PF FR-321 | 11.2 | 4.2 | 6 | 3.4 | 0.2x45° | ● | ○ | ● | ● | ● | ○ | ● | ○ |
| | | 1298.0200 | TN 18 07 08 FR-321 | 18.3 | 7 | 9.8 | 5.5 | R 0.8 | ● | ○ | ● | ● | ● | ○ | ● | ○ |
| | | 1298.0650 | TN 18 07 PF FR-321 | 18.3 | 7 | 9.8 | 5.5 | 0.2x45° | ● | ○ | ● | ● | ● | ○ | ● | ○ |
| | DLC-H | 1297.0201 | TN 11 S4 04 FR-321 | 11.2 | 4.2 | 6 | 3.4 | R 0.4 | ○ | ● | | | ○ | ● | | ● |
| | | 1297.0651 | TN 11 S4 PF FR-321 | 11.2 | 4.2 | 6 | 3.4 | 0.2x45° | ○ | ● | | | ○ | ● | | ● |
| | | 1298.0201 | TN 18 07 08 FR-321 | 18.3 | 7 | 9.8 | 5.5 | R 0.8 | ○ | ● | | | ○ | ● | | ● |
| | | 1298.0651 | TN 18 07 PF FR-321 | 18.3 | 7 | 9.8 | 5.5 | 0.2x45° | ○ | ● | | | ○ | ● | | ● |



ALESA DELTA shell end mill

TN 18 R 90° / Ø 43 – 83

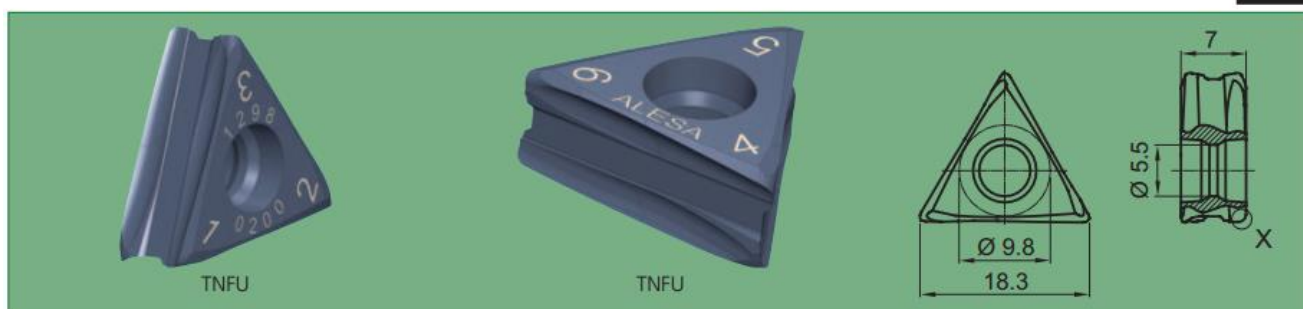
1356



| Part No | Type | D mm | H mm | d1 mm | d2 mm | l1 mm | ap mm | | | | Accessories kit No | WSP |
|-----------|----------------|------|------|-------|-------|-------|-------|---|-------|---|--------------------|----------|
| 1356.0463 | 43-TN 18 R 3x3 | 43 | 60 | 16.0 | 8.5 | 18 | 36 | ✓ | 3 x 3 | r | 1494.0820 | TN 18 07 |
| 1356.0483 | 53-TN 18 R 4x4 | 53 | 72 | 22.0 | 11 | 20 | 48 | ✓ | 4 x 4 | r | 1494.0821 | TN 18 07 |
| 1356.0503 | 66-TN 18 R 5x5 | 66 | 85 | 27.0 | 14 | 22 | 60 | ✓ | 5 x 5 | r | 1494.0822 | TN 18 07 |
| 1356.0523 | 83-TN 18 R 6x6 | 83 | 100 | 32.0 | 18 | 25 | 72 | ✓ | 6 x 6 | r | 1494.0823 | TN 18 07 |

Tool will be delivered with holder, all screws and torque wrench, but without indexable inserts.

ap = 13 mm



| Cutting material | Coating | Part No | ISO Code | Detail X | | | | Mat. classification | | | | | |
|------------------|----------|-----------|--------------------|----------|---|---|---|---------------------|---|---|---|---|---|
| | | | | | | | | 1 | 2 | 3 | 4 | 5 | 6 |
| Carbide CTS | AlCrN-VA | 1298.0200 | TN 18 07 08 FR-321 | R 0.8 | r | ● | ○ | ● | ● | ● | ○ | ● | ○ |
| | | 1298.0650 | TN 18 07 PF FR-321 | 0.2x45° | r | ● | ○ | ● | ● | ● | ○ | ● | ○ |
| | DLC-H | 1298.0201 | TN 18 07 08 FR-321 | R 0.8 | r | ○ | ● | ○ | ○ | ○ | ○ | ○ | ○ |
| | | 1298.0651 | TN 18 07 PF FR-321 | 0.2x45° | r | ○ | ● | ○ | ○ | ○ | ○ | ○ | ○ |

Accessories / spare parts

| Part No | Torx screw | | | | Screw-driver | | Hex socket head screw | | |
|-----------|------------|-----------|------------|--------|--------------|-----------|-----------------------|-----------|--------|
| | Qty | Article | Type | Torque | Article | Type | Article | Type | Torque |
| 1494.0820 | 9 | 1490.0385 | M 5 x 11.5 | 5 Nm | 1492.0650 | T20 / 5Nm | 1490.0700 | M 8 x 50 | 30 Nm |
| 1494.0821 | 16 | 1490.0395 | M 5 x 14.5 | 5 Nm | 1492.0650 | T20 / 5Nm | 1490.0710 | M 10 x 60 | 50 Nm |
| 1494.0822 | 25 | 1490.0395 | M 5 x 14.5 | 5 Nm | 1492.0650 | T20 / 5Nm | 1490.0728 | M 12 x 70 | 90 Nm |
| 1494.0823 | 36 | 1490.0395 | M 5 x 14.5 | 5 Nm | 1492.0650 | T20 / 5Nm | 1490.0738 | M 16 x 80 | 160 Nm |



ALESA DELTA: the spiral ground indexable insert for a smooth and vibration-free chip removal for any metals.



Best results at ae > 10-20% of the diameter.



Profile milling