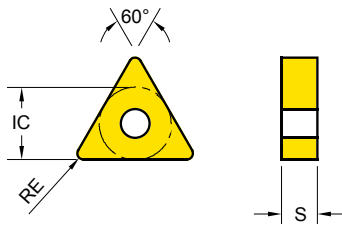


## Turning Inserts - Negative

## TNMA / TNMG (60° Triangle)



| Series    | IC     | S    |
|-----------|--------|------|
| TN** 1604 | 9.525  | 4.76 |
| TN** 2204 | 12.700 | 4.76 |

EDP 2200..

● : Stock item ○ : Order made item

| TNMA<br>TNMG                                                                                                                          | Designation      | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | K10    | P05<br>K20 | P10<br>K30 | P15    | P10    | P20    | P30    | P20    | M25    | M15   | M30   | M40<br>S30 | S10   | P15<br>M15<br>K15 | N20   | N20  |
|---------------------------------------------------------------------------------------------------------------------------------------|------------------|-----|-----------------|------------|--------|------------|------------|--------|--------|--------|--------|--------|--------|-------|-------|------------|-------|-------------------|-------|------|
|                                                                                                                                       |                  |     |                 |            | YG1010 | YG1001     | YG3010     | YG3015 | YG3115 | YG3020 | YG3030 | YG801  | YG2025 | YG211 | YG213 | YG214      | YG401 | YT100             | YG100 | YG10 |
| ..MA<br><br>Cast iron                                | TNMA 160404      | 0.4 | 0.15 ~ 0.50     | 0.5 ~ 5.0  | ● 1582 | ○ 1446     | ○ 1448     |        |        |        |        |        |        |       |       |            |       |                   |       |      |
|                                                                                                                                       | TNMA 160408      | 0.8 | 0.15 ~ 0.50     | 1.0 ~ 5.0  | ● 1486 | ○ 0035     | ○ 1191     |        |        |        |        |        |        |       |       |            |       |                   |       |      |
|                                                                                                                                       | TNMA 160412      | 1.2 | 0.15 ~ 0.50     | 1.5 ~ 5.0  | ● 1485 | ○ 0036     | ○ 1192     |        |        |        |        |        |        |       |       |            |       |                   |       |      |
| -UF<br><br>Finishing                                | TNMG 160404 - UF | 0.4 | 0.05 ~ 0.25     | 0.5 ~ 2.5  |        |            | ○ 0270     |        | ● 2363 | ● 0271 | ● 0272 | ○ 0039 |        |       |       |            |       |                   |       |      |
|                                                                                                                                       | TNMG 160408 - UF | 0.8 | 0.05 ~ 0.25     | 1.0 ~ 2.5  |        |            | ○ 0276     |        | ● 2217 | ● 0277 | ● 0278 |        |        |       |       |            |       |                   |       |      |
|                                                                                                                                       | TNMG 160412 - UF | 1.2 | 0.05 ~ 0.25     | 1.5 ~ 2.5  |        |            | ○ 0721     |        | ● 2645 | ● 0588 | ● 1197 |        |        |       |       |            |       |                   |       |      |
|                                                                                                                                       | TNMG 220404 - UF | 0.4 | 0.10 ~ 0.35     | 0.5 ~ 4.0  |        |            | ○ 0407     |        | ● 2409 | ● 1203 | ● 1205 | ○ 0042 |        |       |       |            |       |                   |       |      |
| -UL<br><br>Light Machining<br>and Sticky Material  | TNMG 160404 - UL | 0.4 | 0.10 ~ 0.30     | 0.5 ~ 3.0  |        |            | ○ 1605     |        | ● 2643 | ● 1606 | ● 1607 |        |        |       |       |            |       |                   |       |      |
|                                                                                                                                       | TNMG 160408 - UL | 0.8 | 0.10 ~ 0.30     | 1.0 ~ 3.0  |        |            | ○ 0279     | ○ 0752 | ● 2374 | ● 0280 | ● 0281 |        |        |       |       |            |       |                   |       |      |
|                                                                                                                                       | TNMG 160412 - UL | 1.2 | 0.10 ~ 0.30     | 1.5 ~ 3.0  |        |            | ○ 0884     | ○ 0868 | ● 2586 | ● 0621 | ● 1198 |        |        |       |       |            |       |                   |       |      |
| -UM<br><br>Medium Machining<br>Unstable condition  | TNMG 160404 - UM | 0.4 | 0.15 ~ 0.30     | 0.5 ~ 3.0  | ○ 1669 | ○ 0949     | ○ 0948     | ○ 0844 | ● 2644 | ● 0952 | ● 0954 |        |        |       |       |            |       |                   |       |      |
|                                                                                                                                       | TNMG 160408 - UM | 0.8 | 0.15 ~ 0.30     | 1.0 ~ 3.0  | ○ 1141 | ○ 1053     | ○ 0282     | ○ 0758 | ● 2195 | ● 0283 | ● 0284 |        |        |       |       |            |       |                   |       |      |
|                                                                                                                                       | TNMG 160412 - UM | 1.2 | 0.15 ~ 0.30     | 1.5 ~ 3.0  | ○ 1143 | ○ 0596     | ○ 0597     | ○ 0760 | ● 2587 | ● 0586 | ● 0710 |        |        |       |       |            |       |                   |       |      |
| -UG<br><br>Medium Machining<br>at stable condition | TNMG 160404 - UG | 0.4 | 0.20 ~ 0.40     | 0.5 ~ 3.0  | ● 1620 | ○ 0458     | ○ 0273     |        | ● 2171 | ● 0274 | ● 0275 |        |        |       |       |            |       |                   |       |      |
|                                                                                                                                       | TNMG 160408 - UG | 0.8 | 0.20 ~ 0.40     | 1.0 ~ 3.0  | ● 1140 | ○ 0459     | ○ 0144     | ○ 0757 | ● 2182 | ● 0145 | ● 0146 | ○ 0037 |        |       |       |            |       |                   |       |      |
|                                                                                                                                       | TNMG 160412 - UG | 1.2 | 0.20 ~ 0.40     | 1.5 ~ 3.0  | ● 1142 | ○ 0605     | ○ 0606     | ○ 0759 | ● 2200 | ● 0587 | ● 0939 |        |        |       |       |            |       |                   |       |      |
|                                                                                                                                       | TNMG 220408 - UG | 0.8 | 0.25 ~ 0.60     | 1.0 ~ 6.0  | ● 1641 | ○ 1061     | ○ 0285     |        | ● 2394 | ● 0286 | ● 0287 | ○ 0040 |        |       |       |            |       |                   |       |      |
|                                                                                                                                       | TNMG 220412 - UG | 1.2 | 0.25 ~ 0.60     | 1.5 ~ 6.0  | ● 1642 | ○ 1526     | ○ 1527     |        | ● 2694 | ● 1528 | ● 1529 |        |        |       |       |            |       |                   |       |      |
|                                                                                                                                       | TNMG 220416 - UG | 1.6 | 0.25 ~ 0.60     | 2.0 ~ 6.0  | ● 1647 | ○ 1209     | ○ 0851     | ○ 0863 | ● 2695 | ● 0852 | ● 1263 |        |        |       |       |            |       |                   |       |      |
| -UC<br><br>Cast iron and<br>Medium roughing        | TNMG 160404 - UC | 0.4 | 0.20 ~ 0.40     | 0.5 ~ 4.0  | ● 1316 | ○ 0399     | ○ 0400     |        | ● 2423 | ● 0401 | ● 0402 |        |        |       |       |            |       |                   |       |      |
|                                                                                                                                       | TNMG 160408 - UC | 0.8 | 0.20 ~ 0.40     | 1.0 ~ 4.0  | ● 0901 | ○ 0075     | ○ 0129     |        | ● 2382 | ● 0108 | ● 0130 |        |        |       |       |            |       |                   |       |      |
|                                                                                                                                       | TNMG 160412 - UC | 1.2 | 0.20 ~ 0.40     | 1.5 ~ 4.0  | ● 0902 | ○ 0076     | ○ 0131     |        | ● 2413 | ● 0109 | ● 0132 |        |        |       |       |            |       |                   |       |      |
|                                                                                                                                       | TNMG 220416 - UC | 1.6 | 0.20 ~ 0.40     | 2.0 ~ 4.0  |        |            |            |        | ● 1507 |        |        |        |        |       |       |            |       |                   |       |      |
| -UR<br><br>Roughing                                | TNMG 160408 - UR | 0.8 | 0.30 ~ 0.50     | 1.0 ~ 5.0  | ● 0880 | ○ 0680     | ○ 0669     |        | ● 2395 | ● 0670 | ● 1054 |        |        |       |       |            |       |                   |       |      |
|                                                                                                                                       | TNMG 160412 - UR | 1.2 | 0.30 ~ 0.50     | 1.5 ~ 5.0  | ● 1657 | ○ 0602     | ○ 0404     | ○ 0888 | ● 2406 | ● 0405 | ● 0406 | ○ 0038 |        |       |       |            |       |                   |       |      |
|                                                                                                                                       | TNMG 220412 - UR | 1.2 | 0.30 ~ 0.65     | 1.5 ~ 7.0  | ● 1639 | ○ 0408     | ○ 0409     |        | ● 2403 | ● 0410 | ● 0411 | ○ 0041 |        |       |       |            |       |                   |       |      |
|                                                                                                                                       | TNMG 220416 - UR | 1.6 | 0.30 ~ 0.65     | 2.0 ~ 7.0  | ● 1658 | ○ 0460     | ○ 0461     |        | ● 2696 | ● 0696 | ● 0711 |        |        |       |       |            |       |                   |       |      |

# Turning Inserts - Negative

## TNMG (60° Triangle)

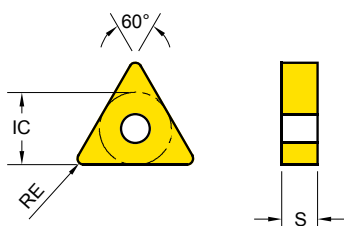
TURNING

PARTING &amp; GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION



| Series    | IC     | S    |
|-----------|--------|------|
| TN** 1604 | 9.525  | 4.76 |
| TN** 2204 | 12.700 | 4.76 |

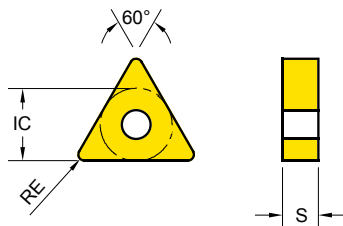
EDP 2200..

● : Stock item ○ : Order made item

|      |                                                                                     |                              |                  |     | ISO 1832    |            |            |        |        |           |           |           |        |       |       |            |       |                   |       |      |  |  |
|------|-------------------------------------------------------------------------------------|------------------------------|------------------|-----|-------------|------------|------------|--------|--------|-----------|-----------|-----------|--------|-------|-------|------------|-------|-------------------|-------|------|--|--|
|      |                                                                                     |                              |                  |     | K10         | P05<br>K20 | P10<br>K30 | P15    | P10    | P20       | P30       | P20       | M25    | M15   | M30   | M40<br>S30 | S10   | P15<br>M15<br>K15 | N20   | N20  |  |  |
| TNMG |                                                                                     |                              |                  |     | YG1010      | YG1001     | YG3010     | YG3015 | YG3115 | YG3020    | YG3030    | YG801     | YG2025 | YG211 | YG213 | YG214      | YG401 | YT100             | YG100 | YG10 |  |  |
| -MF  |    | Stainless steel<br>Finishing | TNMG 160404 - MF | 0.4 | 0.07 ~ 0.3  | 0.2 ~ 1.5  |            |        |        |           |           |           |        | ●     | ●     | ●          | ○     |                   |       |      |  |  |
|      |                                                                                     |                              | TNMG 160408 - MF | 0.8 | 0.07 ~ 0.3  | 0.2 ~ 1.5  |            |        |        |           | ○<br>0963 |           |        | ●     | ●     | ●          | ●     | ○                 |       |      |  |  |
|      |                                                                                     |                              |                  |     |             |            |            |        |        |           |           |           |        |       |       |            |       |                   |       |      |  |  |
| -MM  |    | Stainless steel<br>Medium    | TNMG 160404 - MM | 0.4 | 0.20 ~ 0.35 | 0.5 ~ 3.5  |            |        |        |           |           |           |        | ●     | ●     | ●          | ○     |                   |       |      |  |  |
|      |                                                                                     |                              | TNMG 160408 - MM | 0.8 | 0.20 ~ 0.35 | 1.0 ~ 3.5  |            |        |        |           |           |           |        |       | ●     | ●          | ●     | ○                 |       |      |  |  |
|      |                                                                                     |                              | TNMG 160412 - MM | 1.2 | 0.20 ~ 0.35 | 1.5 ~ 3.5  |            |        |        |           |           |           |        |       | ●     | ●          | ●     | ○                 |       |      |  |  |
| -MG  |  | Stainless steel<br>General   | TNMG 160404 - MG | 0.4 | 0.20 ~ 0.40 | 0.5 ~ 4.0  |            |        |        |           |           |           | ●      | ●     | ●     | ●          | ●     |                   |       |      |  |  |
|      |                                                                                     |                              | TNMG 160408 - MG | 0.8 | 0.20 ~ 0.40 | 1.0 ~ 4.0  |            |        |        |           |           |           |        |       | ●     | ●          | ●     | ●                 | ●     |      |  |  |
|      |                                                                                     |                              | TNMG 160412 - MG | 1.2 | 0.20 ~ 0.50 | 2.0 ~ 4.0  |            |        |        |           |           |           |        |       | ●     | ●          | ●     | ●                 | ●     |      |  |  |
| -MR  |  | Stainless steel<br>Roughing  | TNMG 160408 - MR | 0.8 | 0.30 ~ 0.55 | 2.0 ~ 5.5  |            |        |        | ○<br>0727 |           | ●         | ●      | ●     | ●     |            |       |                   |       |      |  |  |
|      |                                                                                     |                              | TNMG 160412 - MR | 1.2 | 0.30 ~ 0.55 | 2.0 ~ 5.5  |            |        |        |           |           | ○<br>1062 |        | ●     | ●     | ●          | ●     |                   |       |      |  |  |

# Turning Inserts - Negative

## TNGG / TNMG (60° Triangle)



| Series    | IC     | S    |
|-----------|--------|------|
| TN** 1604 | 9.525  | 4.76 |
| TN** 2204 | 12.700 | 4.76 |

EDP 2200..

● : Stock item ○ : Order made item

| TNGG<br>TNMG                                                                                                                                        | Designation       | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | K10    | P05<br>K20 | P10<br>K30 | P15    | P10    | P20    | P30    | P20   | M25    | M15       | M30       | M40<br>S30 | S10       | P15<br>M15<br>K15 | N20   | N20  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----|-----------------|------------|--------|------------|------------|--------|--------|--------|--------|-------|--------|-----------|-----------|------------|-----------|-------------------|-------|------|
|                                                                                                                                                     |                   |     |                 |            | YG1010 | YG1001     | YG3010     | YG3015 | YG3115 | YG3020 | YG3030 | YG801 | YG2025 | YG211     | YG213     | YG214      | YG401     | YT100             | YG100 | YG10 |
| <b>-SF</b><br><br>Stainless steel<br>Finishing                     | TNMG 160408 - SF  | 0.8 | 0.10 ~ 0.25     | 0.2 ~ 1.0  |        |            |            |        |        |        |        |       |        |           |           |            | ●<br>1427 |                   |       |      |
|                                                                                                                                                     |                   |     |                 |            |        |            |            |        |        |        |        |       |        |           |           |            |           |                   |       |      |
| <b>-SM</b><br><br>Stainless steel<br>Medium                        | TNMG 160408 - SM  | 0.8 | 0.15 ~ 0.30     | 0.5 ~ 3.0  |        |            |            |        |        |        |        |       |        | ○<br>1575 | ○<br>1576 | ○<br>1577  | ●<br>1228 |                   |       |      |
|                                                                                                                                                     | TNMG 160412 - SM  | 1.2 | 0.15 ~ 0.30     | 0.5 ~ 3.0  |        |            |            |        |        |        |        |       |        | ○<br>1635 | ○<br>1636 | ○<br>1858  | ●<br>1508 |                   |       |      |
| <b>-SR</b><br><br>HRSA<br>Roughing                               | TNMG 160408 - SR  | 0.8 | 0.30 ~ 0.55     | 2.0 ~ 5.5  |        |            |            |        |        |        |        |       |        |           |           |            | ●<br>1307 |                   |       |      |
|                                                                                                                                                     | TNMG 160412 - SR  | 1.2 | 0.30 ~ 0.55     | 2.0 ~ 5.5  |        |            |            |        |        |        |        |       |        |           |           |            | ●<br>1306 |                   |       |      |
| <b>NEW</b><br><b>-PSF</b><br><br>Cermet Finishing                | TNMG 160404 - PSF | 0.4 | 0.07 ~ 0.30     | 0.4 ~ 2.5  |        |            |            |        |        |        |        |       |        |           |           |            | ●<br>2535 |                   |       |      |
|                                                                                                                                                     | TNMG 160408 - PSF | 0.8 | 0.10 ~ 0.30     | 0.6 ~ 2.5  |        |            |            |        |        |        |        |       |        |           |           |            | ●<br>2536 |                   |       |      |
| <b>NEW</b><br><b>-C</b><br><br>Cermet Medium<br>Left Hand Shown  | TNGG 160402L - C  | 0.2 | 0.20 ~ 0.40     | 0.3 ~ 3.5  |        |            |            |        |        |        |        |       |        |           |           |            | ○<br>2524 |                   |       |      |
|                                                                                                                                                     | TNGG 160404L - C  | 0.4 | 0.20 ~ 0.40     | 0.5 ~ 3.5  |        |            |            |        |        |        |        |       |        |           |           |            | ○<br>2526 |                   |       |      |
|                                                                                                                                                     | TNGG 160408L - C  | 0.8 | 0.20 ~ 0.40     | 1.0 ~ 3.5  |        |            |            |        |        |        |        |       |        |           |           |            | ○<br>2528 |                   |       |      |
| <b>NEW</b><br><b>-C</b><br><br>Cermet Medium<br>Right Hand Shown | TNGG 160402R - C  | 0.2 | 0.20 ~ 0.40     | 0.3 ~ 3.5  |        |            |            |        |        |        |        |       |        |           |           |            | ○<br>2525 |                   |       |      |
|                                                                                                                                                     | TNGG 160404R - C  | 0.4 | 0.20 ~ 0.40     | 0.5 ~ 3.5  |        |            |            |        |        |        |        |       |        |           |           |            | ○<br>2527 |                   |       |      |
|                                                                                                                                                     | TNGG 160408R - C  | 0.8 | 0.20 ~ 0.40     | 1.0 ~ 3.5  |        |            |            |        |        |        |        |       |        |           |           |            | ○<br>2529 |                   |       |      |

TURNING

PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

Turning Inserts - Negative  
**TNUX (60° Triangle)**

TURNING

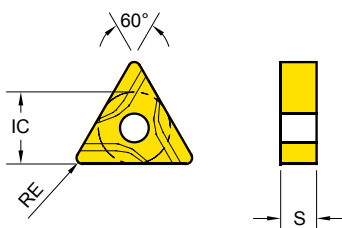
PARTING &amp; GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

| Series    | IC    | S    |
|-----------|-------|------|
| TN** 1604 | 9.525 | 4.76 |



EDP 2200..

● : Stock item ○ : Order made item

| TNUX                                                                                                                                     | Designation   | RE  | Fn<br>(mm/rev.) | Ap<br>(mm) | YG1010 | YG1001 | YG3010    | YG3015 | YG3115    | YG3020    | YG3030    | YG801     | YG2025 | YG211     | YG213 | YG214 | YG401 | YT100 | YG100 | YG10 |
|------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----|-----------------|------------|--------|--------|-----------|--------|-----------|-----------|-----------|-----------|--------|-----------|-------|-------|-------|-------|-------|------|
|                                                                                                                                          |               |     |                 |            |        |        |           |        |           |           |           |           |        |           |       |       |       |       |       |      |
| <div>..UX</div> <div></div> <div>Left Hand Shown</div>  | TNUX 160404 L | 0.4 | 0.10 ~ 0.30     | 0.5 ~ 4.0  |        |        | ○<br>0412 |        | ●<br>2425 | ●<br>0413 | ●<br>1264 | ○<br>0043 |        |           |       |       |       |       |       |      |
|                                                                                                                                          | TNUX 160408 L | 0.8 | 0.10 ~ 0.40     | 1.0 ~ 5.0  |        |        | ○<br>0414 |        | ●<br>2198 | ●<br>0415 | ●<br>0675 | ○<br>0045 |        | ○<br>0731 |       |       |       |       |       |      |
|                                                                                                                                          |               |     |                 |            |        |        |           |        |           |           |           |           |        |           |       |       |       |       |       |      |
| <div>..UX</div> <div></div> <div>Right Hand Shown</div> | TNUX 160404 R | 0.4 | 0.10 ~ 0.30     | 0.5 ~ 4.0  |        |        | ○<br>0288 |        | ●<br>2390 | ●<br>0289 | ●<br>0290 | ●<br>0044 |        |           |       |       |       |       |       |      |
|                                                                                                                                          | TNUX 160408 R | 0.8 | 0.10 ~ 0.40     | 1.0 ~ 5.0  |        |        | ○<br>0291 |        | ●<br>2354 | ●<br>0292 | ●<br>0293 | ●<br>0046 |        |           |       |       |       |       |       |      |
|                                                                                                                                          |               |     |                 |            |        |        |           |        |           |           |           |           |        |           |       |       |       |       |       |      |