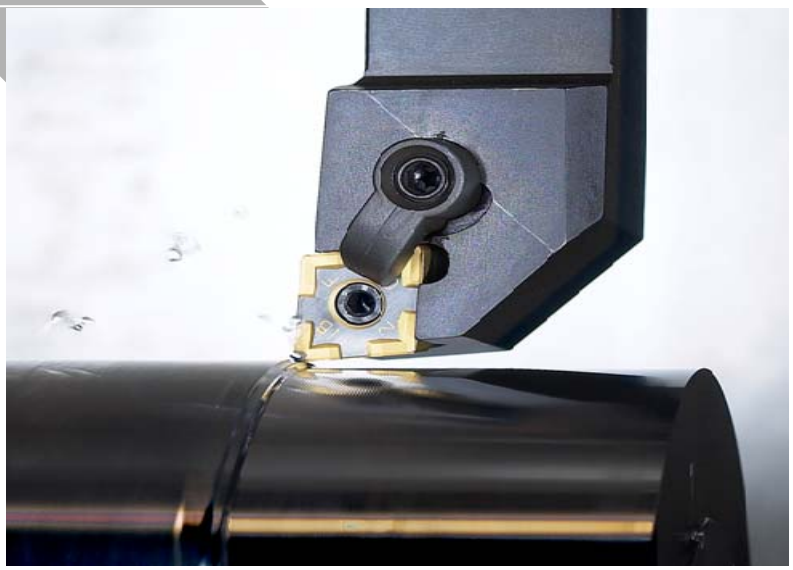
# Stellram® Product Spotlight

## NEW 1B Finishing Geometry



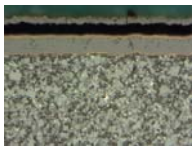
ATI Stellram's new turning geometry/chip breaker for finish machining of Steel, Stainless Steel and Difficult-to-Machine alloys, has been designed to cope with the ever increasing demands for greater productivity with improved component integrity. The precisely controlled cutting edge and nose profile remove material cleanly and efficiently leaving a superior surface finish while reducing machining pressure for longer tool life and increased cutting edge security.

## Features and Benefits

- Grade SP0819 improves heat and wear resistance in high temperature alloys resulting in longer and secure tool life
- Nitro-Lok® coated NL37 grade is available for demanding applications in unalloyed and alloyed steels
- The chip breaker design provides excellent chip control at varying depths of cut and feed rates for greater versatility
- High resistance to edge breakdown provides for consistent surface finishes and the maintaining of dimensional tolerances
- Ground seating surfaces for better placement and security of the insert while also providing superior heat transfer, reducing insert temperature for longer tool life

**Grade SP0819— PVD Coated**

- Allows for higher cutting speeds in difficult-to-machine materials
- Stable component set up with no vibrations
- Superior tool life



**Nitro-Lok® Coating NL37— CVD Coated**

US Patent # 5,958,569 European Patent # EP0857095B1

- Withstands weaker component setup and vibration
- High resistance to edge breakdown
- Medium to high cutting speeds

Stellram ATI Engineered Products

# Stellram® Product Spotlight

## 1B Finishing Geometry

## Product Offering

| ITEM | GRADE | ISO | ANSI |
|---|---|---|---|
| 030458 | NL37 | CNMG120404E-1B | CNMG431A-1B |
| 030864 | SP0819 | CNMG120404E-1B | CNMG431A-1B |
| 030459 | NL37 | CNMG120408E-1B | CNMG432A-1B |
| 030865 | SP0819 | CNMG120408E-1B | CNMG432A-1B |
| 030463 | NL37 | DNMG110404E-1B | DNMG331A-1B |
| 030869 | SP0819 | DNMG110404E-1B | DNMG331A-1B |
| 030464 | NL37 | DNMG110408E-1B | DNMG332A-1B |
| 030870 | SP0819 | DNMG110408E-1B | DNMG332A-1B |
| 030466 | NL37 | DNMG150404E-1B | DNMG431A-1B |
| 030872 | SP0819 | DNMG150404E-1B | DNMG431A-1B |
| 030467 | NL37 | DNMG150408E-1B | DNMG432A-1B |
| 030873 | SP0819 | DNMG150408E-1B | DNMG432A-1B |
| 030469 | NL37 | DNMG150604E-1B | DNMG441A-1B |
| 030875 | SP0819 | DNMG150604E-1B | DNMG441A-1B |
| 030470 | NL37 | DNMG150608E-1B | DNMG442A-1B |
| 030876 | SP0819 | DNMG150608E-1B | DNMG442A-1B |
| 030472 | NL37 | SNMG120408E-1B | SNMG432A-1B |
| 030878 | SP0819 | SNMG120408E-1B | SNMG432A-1B |
| 030473 | NL37 | TNMG160404E-1B | TNMG331A-1B |
| 030879 | SP0819 | TNMG160404E-1B | TNMG331A-1B |
| 030474 | NL37 | TNMG160408E-1B | TNMG332A-1B |
| 030880 | SP0819 | TNMG160408E-1B | TNMG332A-1B |
| 030476 | NL37 | VNMG160404E-1B | VNMG331A-1B |
| 030882 | SP0819 | VNMG160404E-1B | VNMG331A-1B |
| 030477 | NL37 | VNMG160408E-1B | VNMG332A-1B |
| 030883 | SP0819 | VNMG160408E-1B | VNMG332A-1B |
| 030478 | NL37 | WNMG060404E-1B | WNMG331A-1B |
| 030884 | SP0819 | WNMG060404E-1B | WNMG331A-1B |
| 030479 | NL37 | WNMG060408E-1B | WNMG332A-1B |
| 030885 | SP0819 | WNMG060408E-1B | WNMG332A-1B |
| 030480 | NL37 | WNMG080404E-1B | WNMG431A-1B |
| 030886 | SP0819 | WNMG080404E-1B | WNMG431A-1B |
| 030481 | NL37 | WNMG080408E-1B | WNMG432A-1B |
| 030887 | SP0819 | WNMG080408E-1B | WNMG432A-1B |

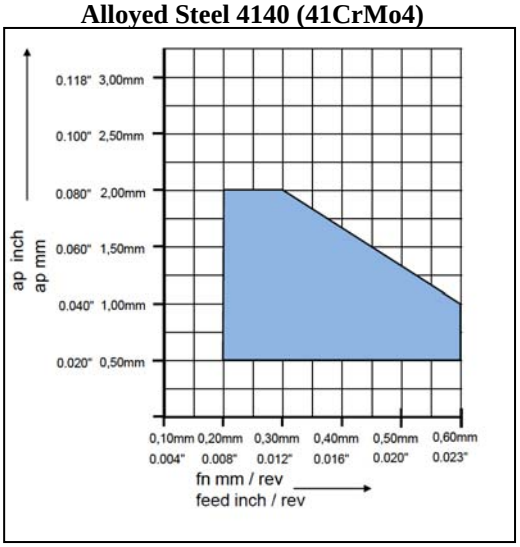
Note: 3 radius available 2010

## Cutting Data

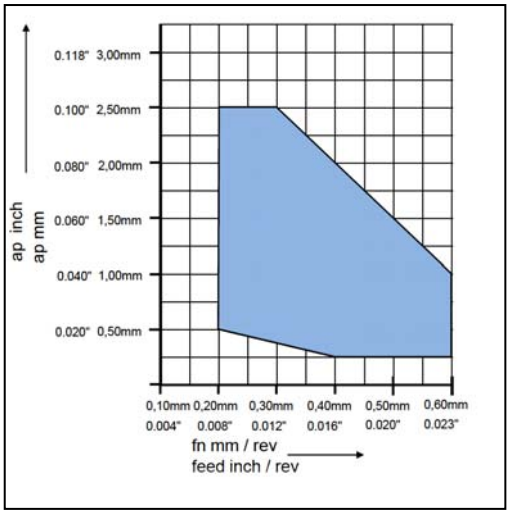
| Cutting Speed (Vc) | | | CVD Coated | | | | PVD Coated | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ISO | Material | Rm and Hardness | NL37 | | NL37 | | SP0819 | | SP0819 | |
| | | | SFM | | m/min | | SFM | | m/min | |
| | | | Min - Max | | Min - Max | | Min - Max | | Min - Max | |
| P | Unalloyed Steel | <600 N/mm² <180HBN | 520 | 1400 | 160 | 425 | 700 | 1480 | 210 | 450 |
| | | <950 N/mm² <280HBN | 335 | 900 | 100 | 275 | 450 | 960 | 140 | 295 |
| | Alloyed Steel | 700 - 950 N/mm² 200 - 280 HBN | 310 | 825 | 95 | 250 | 415 | 880 | 125 | 270 |
| | | 950 - 1200 N/mm² 280 - 355 HBN | 280 | 700 | 85 | 215 | 375 | 800 | 115 | 245 |
| | | 1200 - 1400 N/mm² 355 - 415 HBN | 190 | 400 | 60 | 120 | 255 | 550 | 80 | 170 |
| M | Stainless Steel | Austenitic + Ferritic 300 Series | | | | | 470 | 1000 | 145 | 305 |
| | | Martensitic 400 Series | | | | | 490 | 1040 | 150 | 315 |
| | Stainless Steel | Refractory P.H. | | | | | 250 | 535 | 75 | 165 |
| S | High Temperature Alloys | Iron Based | | | | | 100 | 215 | 30 | 65 |
| | | Cobalt Based | | | | | 80 | 175 | 25 | 55 |
| | | Nickel Based | | | | | 90 | 190 | 30 | 60 |
| | | Titanium Based | | | | | 140 | 260 | 40 | 80 |

## Chip Control Charts

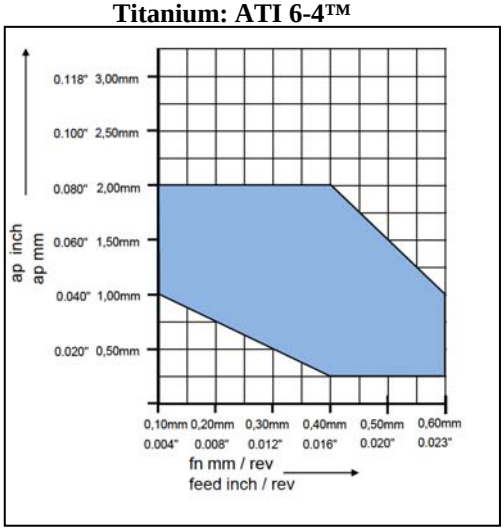
**Alloyed Steel 4140 (41CrMo4)**




**Stainless Steel: Allvac® 316L**




**Titanium: ATI 6-4™**






Insert Used: CNMG120408E-1B CNMG432A-1B