

# CT-GS20Y

The more  
sustainable carbide

upGRADE<sup>♻️</sup>

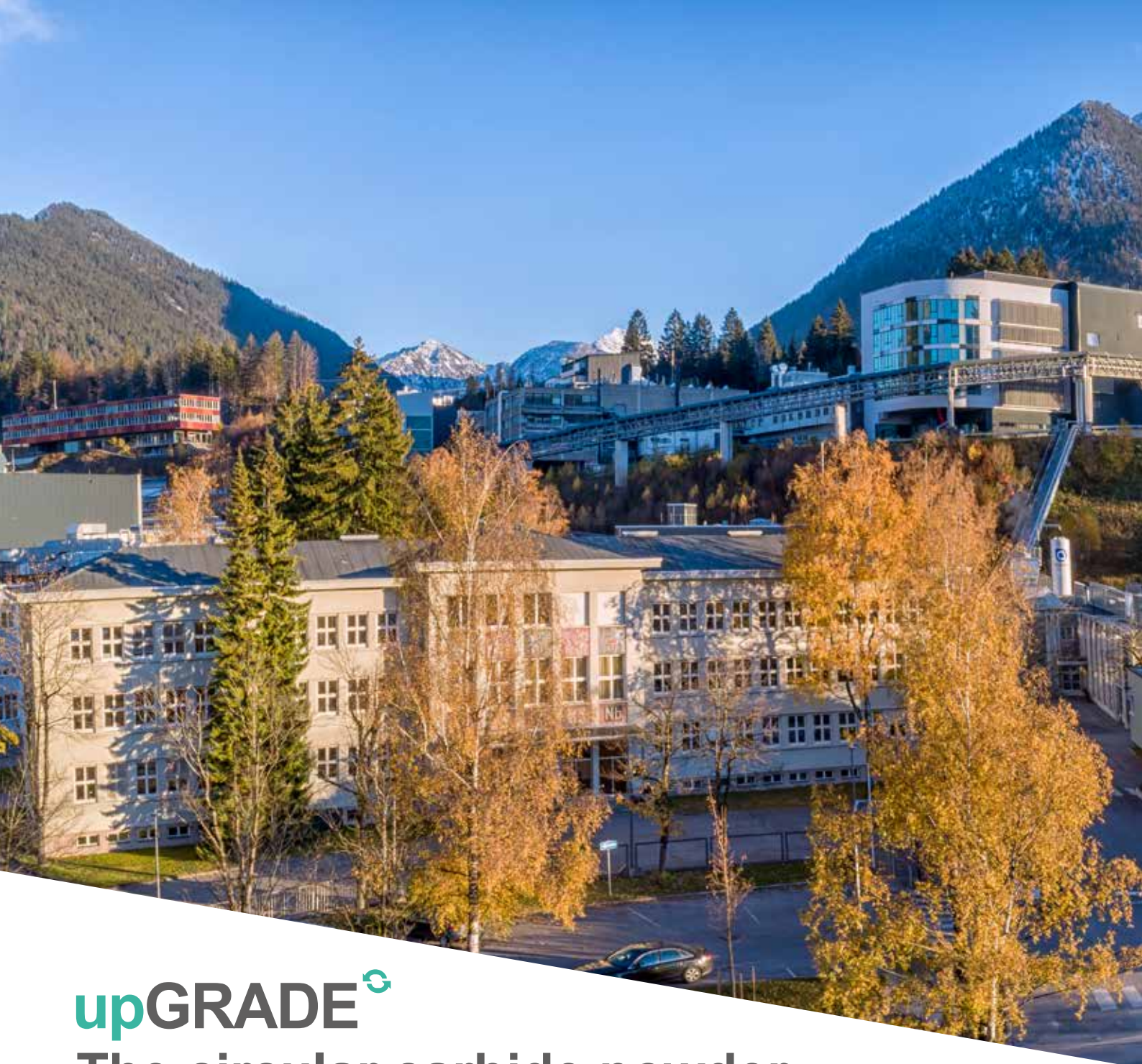
CERATIZIT is a high-technology engineering group specialised in cutting tools and hard material solutions.

**Tooling a Sustainable Future**

[ceratizit.com](https://ceratizit.com)



**CERATIZIT**  
GROUP



**upGRADE** 

## The circular carbide powder

**upGRADE** describes reprocessed tungsten carbide powder that has the highest material recycling rate in its category.

### What makes upGRADE tungsten carbide powder more sustainable?

- ▲ Advanced technologies: 50–99% of the powder is efficiently reprocessed to a high standard.
- ▲ Renewable energy: 100% of the recycling is carried out using renewable energy.
- ▲ Outstanding performance: Products made with upGRADE powder offer the excellent performance you expect from CERATIZIT
- ▲ Lowest CO<sub>2</sub> emissions: **upGRADE** powder ensures the lowest CO<sub>2</sub> emissions in its class

‘The **upGRADE** portfolio is an important component of our sustainability strategy. It proves that more sustainable carbide products are possible without compromising on performance.’

Members of the CERATIZIT Group Management Board

Discover more about **upGRADE** on our website

[www.ceratizit.com](http://www.ceratizit.com)



# Rods with coolant holes and preforms now also available.

## CT-GS20Y: one grade, many benefits

### Low CO<sub>2</sub>-footprint

Our **upGRADE CT-GS20Y** is made from **over 99% high quality reprocessed carbide**. At 2.6kg CO<sub>2</sub>/kg carbide, this results in an unrivalled low **CO<sub>2</sub>-footprint** for a premium performance carbide grade.

### Resource conservation

Innovative recycling processes reduce our energy consumption and use of raw materials.

### Performance

Our **upGRADE CT-GS20Y** achieves the performance of a premium grade. This allows the use also for demanding applications.

### Short Supply Chains

Recycling allows short supply chains, thus also positively influencing replenishment times. In addition, it allows a significant reduction of dependency on third-party suppliers of raw materials (in our industry, 80% of tungsten is sourced from Chinese mines).

We look forward to hearing from you. Please do not hesitate to contact us at: [\*\*sales.rods@ceratizit.com\*\*](mailto:sales.rods@ceratizit.com)

All products are available in our online shop for fast and easy ordering. Your benefits at a glance:

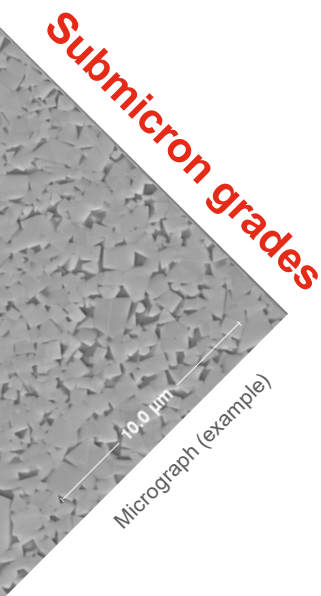
- Real-time global availability check
  - Order and delivery tracking (Track & Trace) for maximum transparency
  - Instant order confirmation upon completion of the purchase
  - Comprehensive product information including technical details and specifications
  - Access to complete document history: invoices, online and offline orders, and much more
- 

# Grades: composition and properties

## Submicron grades

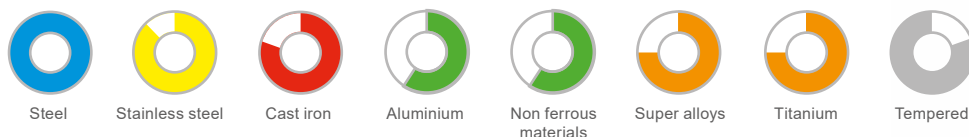
| Grade    | ISO code* | Binder<br>[m %] | Density<br>[g/cm <sup>3</sup> ] | Hardness |       | Transverse<br>rupture<br>strength<br>[MPa] | KIC**<br>(Shetty)<br>[MPa · m <sup>1/2</sup> ] | Modulus of<br>elasticity<br>[GPa] | Poisson's<br>ratio<br>[-] |
|----------|-----------|-----------------|---------------------------------|----------|-------|--------------------------------------------|------------------------------------------------|-----------------------------------|---------------------------|
|          |           |                 |                                 | [HV30]   | [HRA] |                                            |                                                |                                   |                           |
| CT-GS20Y | K20 – K40 | 10,0            | 14,44                           | 1580     | 91,8  | 3800                                       | 10,6                                           | 577                               | 0,213                     |

| Grain size classification |                | CERATIZIT<br>code |
|---------------------------|----------------|-------------------|
| Average grain size [µm]   | Classification |                   |
| < 0,2                     | nano           | <b>N</b>          |
| 0,2 – < 0,5               | ultrafine      | <b>U</b>          |
| 0,5 – < 0,8               | submicron      | <b>S</b>          |
| 0,8 – < 1,3               | fine           | <b>F</b>          |
| 1,3 – < 2,5               | medium         | <b>M</b>          |
| 2,5 – < 6,0               | coarse         | <b>C</b>          |
| > 6,0                     | extra-coarse   | <b>E</b>          |



## Application recommendations

**CT-GS20Y** consists of over 99% high-quality reprocessed carbide powder. In addition, it is produced using low-emission production processes to keep the CO<sub>2</sub> footprint as low as possible. CT-GS20Y represents the first cemented carbide on the market which combines the performance of a premium carbide grade with a deliberately sustainable production process. The application range is the same as for grade CTS20D



# Product portfolio

## SOLID CARBIDE RODS

- ▲ As sintered
- ▲ Ground

## END MILL BLANKS

- ▲ Metric

## RODS WITH HELICAL COOLANT HOLES

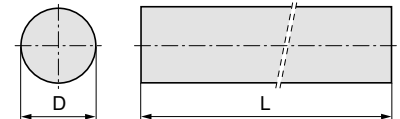
- ▲ As sintered
  - With two coolant holes (23°–49°)
- ▲ Ground
  - With two coolant holes (23°–49°)



## Solid carbide rods

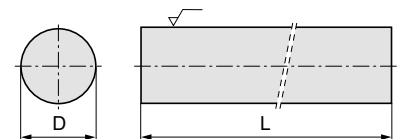
Grade CT-GS20Y offers a comprehensive standard range of as sintered and ground solid rods, available from stock in diameters ranging from 6 mm to 25 mm. Ground rods are supplied according to ISO 286 in tolerance class h5.

### As sintered



| D<br>[mm] | L<br>[mm] | Type,<br>description | D-Tol.<br>[mm] | Grade    |
|-----------|-----------|----------------------|----------------|----------|
| 6,20      | 330       | RR 0620-330 CT-GS20Y | -0/+0,25       | CT-GS20Y |
| 8,20      | 330       | RR 0820-330 CT-GS20Y | -0/+0,30       | CT-GS20Y |
| 10,20     | 330       | RR 1020-330 CT-GS20Y | -0/+0,30       | CT-GS20Y |
| 12,20     | 330       | RR 1220-330 CT-GS20Y | -0/+0,30       | CT-GS20Y |
| 14,20     | 330       | RR 1420-330 CT-GS20Y | -0/+0,30       | CT-GS20Y |
| 16,20     | 330       | RR 1620-330 CT-GS20Y | -0/+0,45       | CT-GS20Y |
| 18,20     | 330       | RR 1820-330 CT-GS20Y | -0/+0,45       | CT-GS20Y |
| 20,20     | 330       | RR 2020-330 CT-GS20Y | -0/+0,45       | CT-GS20Y |
| 25,20     | 330       | RR 2520-330 CT-GS20Y | -0/+0,65       | CT-GS20Y |

### Ground

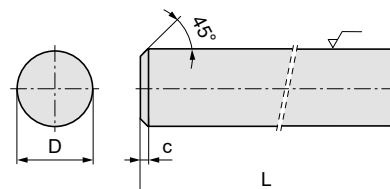


| D<br>[mm] | L<br>[mm] | Type,<br>description     | D-Tol.<br>[mm] | ISO 286 | Sorte    |
|-----------|-----------|--------------------------|----------------|---------|----------|
| 6,00      | 330       | RGM 0600-330 CT-GS20Y h5 | +0/-0,005      | h5      | CT-GS20Y |
| 8,00      | 330       | RGM 0800-330 CT-GS20Y h5 | +0/-0,006      | h5      | CT-GS20Y |
| 10,00     | 330       | RGM 1000-330 CT-GS20Y h5 | +0/-0,006      | h5      | CT-GS20Y |
| 12,00     | 330       | RGM 1200-330 CT-GS20Y h5 | +0/-0,008      | h5      | CT-GS20Y |
| 14,00     | 330       | RGM 1400-330 CT-GS20Y h5 | +0/-0,008      | h5      | CT-GS20Y |
| 16,00     | 330       | RGM 1600-330 CT-GS20Y h5 | +0/-0,008      | h5      | CT-GS20Y |
| 18,00     | 330       | RGM 1800-330 CT-GS20Y h5 | +0/-0,008      | h5      | CT-GS20Y |
| 20,00     | 330       | RGM 2000-330 CT-GS20Y h5 | +0/-0,009      | h5      | CT-GS20Y |
| 25,00     | 330       | RGM 2500-330 CT-GS20Y h5 | +0/-0,009      | h5      | CT-GS20Y |

## End mill blanks

Our end mill blanks are available in both DIN-compliant dimensions and extended lengths. Manufacturing is carried out according to ISO 286 with the highest precision in tolerance class h5 – ensuring maximum fit accuracy and process reliability.

## Metric



| D<br>[mm] | L<br>[mm] | Type,<br>description      | D-Tol.<br>[mm] | ISO 286 | c<br>[mm] | DIN 6527 | Grade    |
|-----------|-----------|---------------------------|----------------|---------|-----------|----------|----------|
| 6,00      | 51        | RGMC 0600-051 CT-GS20Y h5 | +0/-0,005      | h5      | 0,40      | x        | CT-GS20Y |
| 6,00      | 55        | RGMC 0600-055 CT-GS20Y h5 | +0/-0,005      | h5      | 0,40      | x        | CT-GS20Y |
| 6,00      | 58        | RGMC 0600-058 CT-GS20Y h5 | +0/-0,005      | h5      | 0,40      | x        | CT-GS20Y |
| 6,00      | 60        | RGMC 0600-060 CT-GS20Y h5 | +0/-0,005      | h5      | 0,40      |          | CT-GS20Y |
| 6,00      | 100       | RGMC 0600-100 CT-GS20Y h5 | +0/-0,005      | h5      | 0,40      |          | CT-GS20Y |
| 8,00      | 59        | RGMC 0800-059 CT-GS20Y h5 | +0/-0,006      | h5      | 0,60      | x        | CT-GS20Y |
| 8,00      | 64        | RGMC 0800-064 CT-GS20Y h5 | +0/-0,006      | h5      | 0,60      | x        | CT-GS20Y |
| 8,00      | 70        | RGMC 0800-070 CT-GS20Y h5 | +0/-0,006      | h5      | 0,60      |          | CT-GS20Y |
| 8,00      | 100       | RGMC 0800-100 CT-GS20Y h5 | +0/-0,006      | h5      | 0,60      |          | CT-GS20Y |
| 10,00     | 67        | RGMC 1000-067 CT-GS20Y h5 | +0/-0,006      | h5      | 0,80      | x        | CT-GS20Y |
| 10,00     | 73        | RGMC 1000-073 CT-GS20Y h5 | +0/-0,006      | h5      | 0,80      | x        | CT-GS20Y |
| 10,00     | 100       | RGMC 1000-100 CT-GS20Y h5 | +0/-0,006      | h5      | 0,80      |          | CT-GS20Y |
| 12,00     | 74        | RGMC 1200-074 CT-GS20Y h5 | +0/-0,008      | h5      | 0,80      | x        | CT-GS20Y |
| 12,00     | 84        | RGMC 1200-084 CT-GS20Y h5 | +0/-0,008      | h5      | 0,80      | x        | CT-GS20Y |
| 12,00     | 100       | RGMC 1200-100 CT-GS20Y h5 | +0/-0,008      | h5      | 0,80      |          | CT-GS20Y |
| 14,00     | 76        | RGMC 1400-076 CT-GS20Y h5 | +0/-0,008      | h5      | 0,80      | x        | CT-GS20Y |
| 14,00     | 84        | RGMC 1400-084 CT-GS20Y h5 | +0/-0,008      | h5      | 0,80      | x        | CT-GS20Y |
| 16,00     | 83        | RGMC 1600-083 CT-GS20Y h5 | +0/-0,008      | h5      | 0,80      | x        | CT-GS20Y |
| 16,00     | 93        | RGMC 1600-093 CT-GS20Y h5 | +0/-0,008      | h5      | 0,80      | x        | CT-GS20Y |
| 18,00     | 93        | RGMC 1800-093 CT-GS20Y h5 | +0/-0,008      | h5      | 1,00      | x        | CT-GS20Y |
| 20,00     | 93        | RGMC 2000-093 CT-GS20Y h5 | +0/-0,009      | h5      | 1,00      | x        | CT-GS20Y |
| 20,00     | 105       | RGMC 2000-105 CT-GS20Y h5 | +0/-0,009      | h5      | 1,00      | x        | CT-GS20Y |
| 20,00     | 125       | RGMC 2000-125 CT-GS20Y h5 | +0/-0,009      | h5      | 1,00      |          | CT-GS20Y |
| 25,00     | 125       | RGMC 2500-125 CT-GS20Y h5 | +0/-0,009      | h5      | 1,00      |          | CT-GS20Y |

## Rods with helical coolant holes: now available in our product range!

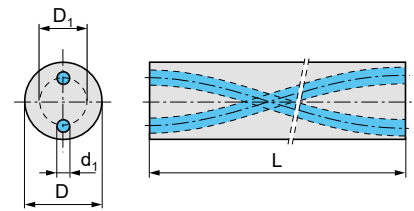
Our selection of as sintered and ground rods with helical coolant holes enables the precise production of drilling tools in the diameter range from 6 mm to 25 mm.

The rods are made from our **upGRADE** grade CT-GS20Y, which combines the performance of a premium grade with more sustainable material usage.

Thanks to its high toughness, CT-GS20Y offers maximum protection against breakage and ensures stable tool performance – ideal for universal machining of steel, stainless steels, and high-temperature alloys.

### Rods with helical coolant holes \ As sintered

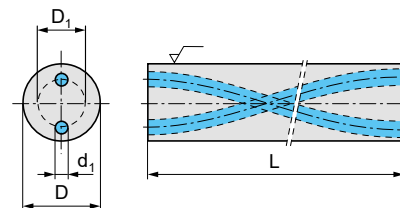
**With two coolant holes, 23°–49°**



| D<br>[mm] | L<br>[mm] | Type,<br>description                  | Nominal pitch |     | D <sub>1</sub><br>[mm] | d <sub>1</sub><br>[mm] | Grade    |
|-----------|-----------|---------------------------------------|---------------|-----|------------------------|------------------------|----------|
|           |           |                                       | [mm]          | [°] |                        |                        |          |
| 6,30      | 330       | 30R2 0630/2,7/0,8/32,7-330 CT-GS20Y   | 32,70         | 30  | 2,70                   | 0,80                   | CT-GS20Y |
| 6,30      | 330       | 40R2 0630/1,9/0,7/22,5-330 CT-GS20Y   | 22,50         | 40  | 1,90                   | 0,70                   | CT-GS20Y |
| 6,30      | 330       | 46R2 0630/1,6/0,5/18,0-330 CT-GS20Y   | 18,00         | 46  | 1,60                   | 0,50                   | CT-GS20Y |
| 8,30      | 330       | 30R2 0830/3,4/1,0/43,5-330 CT-GS20Y   | 43,50         | 30  | 3,40                   | 1,00                   | CT-GS20Y |
| 8,30      | 330       | 40R2 0830/2,9/0,7/30,0-330 CT-GS20Y   | 30,00         | 40  | 2,90                   | 0,70                   | CT-GS20Y |
| 10,30     | 330       | 30R2 1030/4,8/1,3/54,4-330 CT-GS20Y   | 54,40         | 30  | 4,80                   | 1,30                   | CT-GS20Y |
| 10,30     | 330       | 40R2 1030/2,7/0,8/37,0-330 CT-GS20Y   | 37,00         | 40  | 2,70                   | 0,80                   | CT-GS20Y |
| 12,30     | 330       | 30R2 1230/6,3/1,7/65,3-330 CT-GS20Y   | 65,30         | 30  | 6,30                   | 1,70                   | CT-GS20Y |
| 12,30     | 330       | 40R2 1230/4,0/0,9/44,9-330 CT-GS20Y   | 44,90         | 40  | 4,00                   | 0,90                   | CT-GS20Y |
| 14,30     | 330       | 30R2 1430/6,7/1,8/76,2-330 CT-GS20Y   | 76,20         | 30  | 6,70                   | 1,80                   | CT-GS20Y |
| 14,30     | 330       | 40R2 1430/4,6/1,3/52,4-330 CT-GS20Y   | 52,40         | 40  | 4,60                   | 1,30                   | CT-GS20Y |
| 16,30     | 330       | 30R2 1630/8,0/2,0/87,1-330 CT-GS20Y   | 87,10         | 30  | 8,00                   | 2,00                   | CT-GS20Y |
| 16,30     | 330       | 40R2 1630/5,5/1,2/59,9-330 CT-GS20Y   | 59,90         | 40  | 5,50                   | 1,20                   | CT-GS20Y |
| 18,30     | 330       | 30R2 1830/9,3/2,7/98,0-330 CT-GS20Y   | 98,00         | 30  | 9,30                   | 2,70                   | CT-GS20Y |
| 18,30     | 330       | 40R2 1830/5,6/1,6/68,0-330 CT-GS20Y   | 68,00         | 40  | 5,60                   | 1,60                   | CT-GS20Y |
| 20,30     | 330       | 30R2 2030/10,0/2,5/108,8-330 CT-GS20Y | 108,80        | 30  | 10,00                  | 2,50                   | CT-GS20Y |
| 20,30     | 330       | 40R2 2030/7,1/1,5/74,9-330 CT-GS20Y   | 74,90         | 40  | 7,10                   | 1,50                   | CT-GS20Y |

## Rods with helical coolant holes \ Ground

### With two coolant holes, 23°–49°



| D     | L    | Type,<br>description                  | D-Tol,<br>[mm] | ISO 286 | Nominal pitch |     | D <sub>1</sub> | d <sub>1</sub> | Grade    |
|-------|------|---------------------------------------|----------------|---------|---------------|-----|----------------|----------------|----------|
| [mm]  | [mm] |                                       |                |         | [mm]          | [°] | [mm]           | [mm]           |          |
| 6,00  | 330  | 30G2 0600/2,7/0,8/32,7-330 CT-GS20Y   | +0/-0,008      | h6      | 32,70         | 30  | 2,70           | 0,80           | CT-GS20Y |
| 6,00  | 330  | 40G2 0600/1,9/0,7/22,5-330 CT-GS20Y   | +0/-0,008      | h6      | 22,50         | 40  | 1,90           | 0,70           | CT-GS20Y |
| 6,00  | 330  | 46G2 0600/1,6/0,5/18,0-330 CT-GS20Y   | +0/-0,008      | h6      | 18,00         | 46  | 1,60           | 0,50           | CT-GS20Y |
| 8,00  | 330  | 30G2 0800/3,4/1,0/43,5-330 CT-GS20Y   | +0/-0,009      | h6      | 43,50         | 30  | 3,40           | 1,00           | CT-GS20Y |
| 8,00  | 330  | 40G2 0800/2,9/0,7/30,0-330 CT-GS20Y   | +0/-0,009      | h6      | 30,00         | 40  | 2,90           | 0,70           | CT-GS20Y |
| 10,00 | 330  | 30G2 1000/4,8/1,3/54,4-330 CT-GS20Y   | +0/-0,009      | h6      | 54,40         | 30  | 4,80           | 1,30           | CT-GS20Y |
| 10,00 | 330  | 40G2 1000/2,7/0,8/37,0-330 CT-GS20Y   | +0/-0,009      | h6      | 37,00         | 40  | 2,70           | 0,80           | CT-GS20Y |
| 12,00 | 330  | 30G2 1200/6,3/1,7/65,3-330 CT-GS20Y   | +0/-0,011      | h6      | 65,30         | 30  | 6,30           | 1,70           | CT-GS20Y |
| 12,00 | 330  | 40G2 1200/4,0/0,9/44,9-330 CT-GS20Y   | +0/-0,011      | h6      | 44,90         | 40  | 4,00           | 0,90           | CT-GS20Y |
| 14,00 | 330  | 30G2 1400/6,7/1,8/76,2-330 CT-GS20Y   | +0/-0,011      | h6      | 76,20         | 30  | 6,70           | 1,80           | CT-GS20Y |
| 14,00 | 330  | 40G2 1400/4,6/1,3/52,4-330 CT-GS20Y   | +0/-0,011      | h6      | 52,40         | 40  | 4,60           | 1,30           | CT-GS20Y |
| 16,00 | 330  | 30G2 1600/8,0/2,0/87,1-330 CT-GS20Y   | +0/-0,011      | h6      | 87,10         | 30  | 8,00           | 2,00           | CT-GS20Y |
| 16,00 | 330  | 40G2 1600/5,5/1,2/59,9-330 CT-GS20Y   | +0/-0,011      | h6      | 59,90         | 40  | 0,00           | 1,20           | CT-GS20Y |
| 18,00 | 330  | 30G2 1800/9,3/2,7/98,0-330 CT-GS20Y   | +0/-0,011      | h6      | 98,00         | 30  | 9,30           | 2,70           | CT-GS20Y |
| 18,00 | 330  | 40G2 1800/5,6/1,6/68,0-330 CT-GS20Y   | +0/-0,011      | h6      | 68,00         | 40  | 5,60           | 1,60           | CT-GS20Y |
| 20,00 | 330  | 30G2 2000/10,0/2,5/108,8-330 CT-GS20Y | +0/-0,013      | h6      | 108,80        | 30  | 10,00          | 2,50           | CT-GS20Y |
| 20,00 | 330  | 40G2 2000/7,1/1,5/74,9-330 CT-GS20Y   | +0/-0,013      | h6      | 74,90         | 40  | 7,10           | 1,50           | CT-GS20Y |

# Notes

# Notes

# Your sustainable benefits at a glance

Collaborative actions for sustainability are not only vital contributions to address the climate crisis but can also provide you with crucial competitive advantages.

## Product Carbon Footprint

- ▲ More transparency regarding the **CO<sub>2</sub>-footprint**
- ▲ Certified reduced product carbon footprint

## Recycling with CERATIZIT

- ▲ We buy back your worn carbide tools
- ▲ You benefit financially

## upGRADE

- ▲ Highest performance
- ▲ PCF value of **upGRADE** products is printed on the delivery note

## Sustainable packaging

- ▲ The majority of our products are packed in environmentally friendly cardboard packaging
- ▲ Optimal protection with significantly reduced **CO<sub>2</sub>-footprint**