

# SINTERING-DATA-SHEET

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|                       |               |
|-----------------------|---------------|
| <b>powder - code:</b> | Diabro 604045 |
|-----------------------|---------------|

|                        |                    |                         |  |                    |            |
|------------------------|--------------------|-------------------------|--|--------------------|------------|
| <b>main component:</b> | Bz                 | <b>binder:</b>          |  | <b>date:</b>       | 07.09.2011 |
| <b>machine type:</b>   | DSP-25             | <b>aver. Grain size</b> |  | <b>testperson:</b> | OE         |
| <b>utilisation:</b>    | Bronze 60/40 < 45µ |                         |  |                    |            |

|                   |                 |   |                             |                      |   |
|-------------------|-----------------|---|-----------------------------|----------------------|---|
| <b>heating by</b> | <b>die:</b>     | X | <b>temperature measure-</b> | <b>pyroscope:</b>    |   |
|                   | <b>punches:</b> |   | <b>ment by:</b>             | <b>thermocouple:</b> | X |

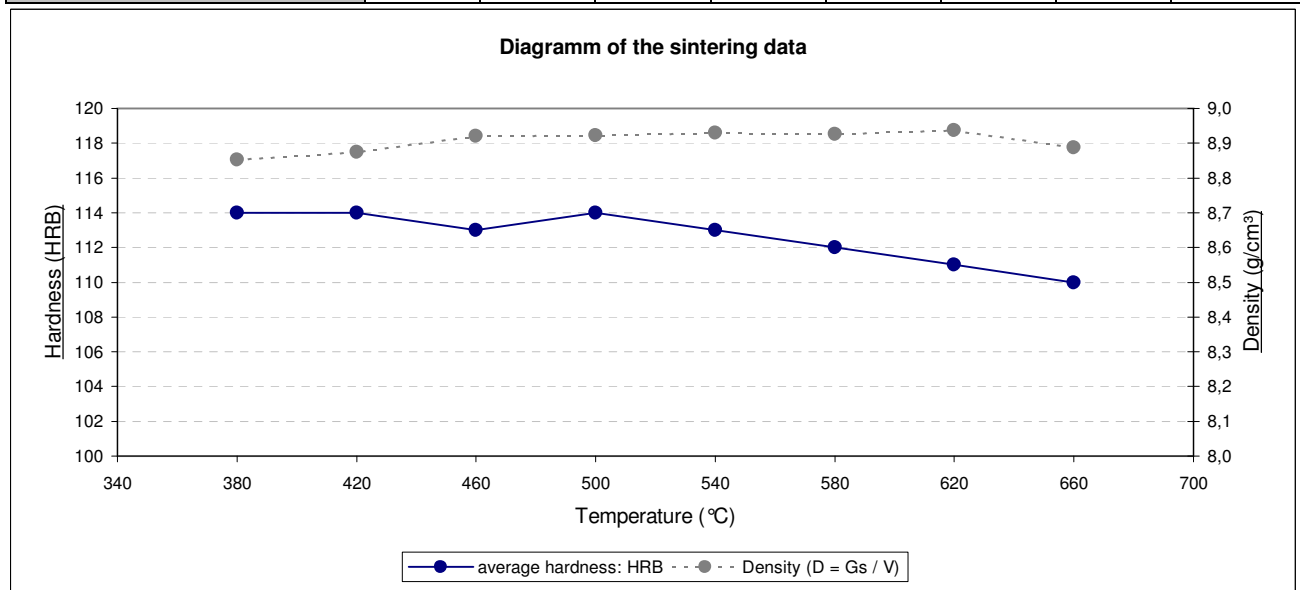
|                           |                    |     |     |     |     |     |     |     |     |
|---------------------------|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| <b>temperature:</b>       | $^{\circ}\text{C}$ | 380 | 420 | 460 | 500 | 540 | 580 | 620 | 660 |
| <b>specific pressure:</b> | $\text{N/mm}^2$    | 35  | ==> |     |     |     |     |     |     |
| <b>sintering time:</b>    | $\text{min}$       | 3   | ==> |     |     |     |     |     |     |

|                                |                 |         |         |         |         |         |         |         |         |
|--------------------------------|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|
| <b>bending strength:</b>       | $\text{N/mm}^2$ |         |         |         |         |         |         |         |         |
| <b>stretch at break:</b>       | %               |         |         |         |         |         |         |         |         |
| <b>average hardness:</b>       | HRB             | 114     | 114     | 113     | 114     | 113     | 112     | 111     | 110     |
| <b>hardness scattering:</b>    | HRB             | 113-115 | 113-115 | 112-115 | 113-114 | 112-114 | 112-113 | 110-112 | 109-111 |
| <b>average hardness:</b>       | HRC             |         |         |         |         |         |         |         |         |
| <b>hardness scattering:</b>    | HRC             |         |         |         |         |         |         |         |         |
| <b>weight:</b>                 | $\text{g}$      | 17      | ==>     |         |         |         |         |         |         |
| <b>weight after sintering:</b> | $\text{g}$      |         |         |         |         |         |         |         |         |

|                                   |                 |      |      |      |      |      |      |      |      |
|-----------------------------------|-----------------|------|------|------|------|------|------|------|------|
| <b>Volume</b> ( $V = G_s - G_w$ ) | $\text{cm}^3$   |      |      |      |      |      |      |      |      |
| <b>Density</b> ( $D = G_s / V$ )  | $\text{g/cm}^3$ | 8,85 | 8,87 | 8,92 | 8,92 | 8,93 | 8,93 | 8,94 | 8,89 |

|   |            |  |  |  |  |  |  |  |  |
|---|------------|--|--|--|--|--|--|--|--|
| <b>weight loss</b> ( $G = G_e - G_s$ )      | $\text{g}$ |  |  |  |  |  |  |  |  |
| <b>rel. Weight loss</b> ( $G_r = G * 100$ ) | %          |  |  |  |  |  |  |  |  |

|               |  |  |  |  |  |  |  |  |  |
|---------------|--|--|--|--|--|--|--|--|--|
| <b>notes:</b> |  |  |  |  |  |  |  |  |  |
|---------------|--|--|--|--|--|--|--|--|--|



**Attention:**

Depending on mould-geometry and type and place of temperature-measurement an increase up to 60 °C must be done to get the same result !  
 In case of moulds with a high number of graphite punches a certain friction value needs to be considered. To obtain the detailed formula you are welcome to contact us.

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