

|           |       |                            |           |         |              |            |                |                 |
|-----------|-------|----------------------------|-----------|---------|--------------|------------|----------------|-----------------|
| Brechzahl | $n_d$ | <b>1,69100</b><br>1,691002 | Abbe Zahl | $\nu_d$ | <b>54,82</b> | Dispersion | $n_F - n_C$    | <b>0,012605</b> |
| Brechzahl | $n_e$ | 1,694007                   | Abbe Zahl | $\nu_e$ | 54,59        | Dispersion | $n_F - n_{C'}$ | 0,012714        |

| Brechzahlen      |          |         |
|------------------|----------|---------|
| $\lambda(\mu m)$ |          |         |
| $n_{2325}$       | 2.32542  | 1,65343 |
| $n_{1970}$       | 1.97009  | 1,66064 |
| $n_{1530}$       | 1.52958  | 1,66822 |
| $n_{1129}$       | 1.12864  | 1,67470 |
| $n_t$            | 1.01398  | 1,67678 |
| $n_s$            | 0.85211  | 1,68037 |
| $n_{A'}$         | 0.76819  | 1,68279 |
| $n_r$            | 0.70652  | 1,68499 |
| $n_C$            | 0.65627  | 1,68717 |
| $n_{C'}$         | 0.64385  | 1,68778 |
| $n_{He-Ne}$      | 0.6328   | 1,68835 |
| $n_D$            | 0.58929  | 1,69089 |
| $n_d$            | 0.58756  | 1,69100 |
| $n_e$            | 0.54607  | 1,69401 |
| $n_F$            | 0.48613  | 1,69977 |
| $n_{F'}$         | 0.47999  | 1,70049 |
| $n_{He-Cd}$      | 0.44157  | 1,70573 |
| $n_g$            | 0.435835 | 1,70664 |
| $n_h$            | 0.404656 | 1,71236 |
| $n_i$            | 0.365015 | 1,72212 |

| Konstanten der Dispersionsformel |                |
|----------------------------------|----------------|
| A <sub>1</sub>                   | 1,16195687E+00 |
| A <sub>2</sub>                   | 6,44860099E-01 |
| A <sub>3</sub>                   | 1,25062221E+00 |
| B <sub>1</sub>                   | 1,59659509E-02 |
| B <sub>2</sub>                   | 5,05502467E-04 |
| B <sub>3</sub>                   | 9,38284169E+01 |

| Chemische Eigenschaften                 |      |
|-----------------------------------------|------|
| Wasserresistenz (Pulvergruppe) RW(P)    | 1    |
| Säureresistenz (Pulvergruppe) RA(P)     | 4    |
| Klimaresistenz (Oberflächengruppe) W(S) | 2    |
| Säureresistenz (Oberflächengruppe) SR   | 52.0 |
| Phosphatresistenz PR                    | 4.0  |

| Mechanische Eigenschaften                                    |         |
|--------------------------------------------------------------|---------|
| Elastizitätsmodul E (10 <sup>9</sup> N/m <sup>2</sup> )      | 107,5   |
| Torsionsmodul G (10 <sup>9</sup> N/m <sup>2</sup> )          | 41,8    |
| Poissonzahl $\sigma$                                         | 0,287   |
| Knoop Härte Hk [Klasse]                                      | 660   7 |
| Schleifhärte Aa                                              | 89      |
| Photoelastische Konstante $\beta$ (nm/cm/10 <sup>5</sup> Pa) | 1,85    |

| Teildispersion |          |
|----------------|----------|
| $n_C - n_t$    | 0,010384 |
| $n_C - n_{A'}$ | 0,004384 |
| $n_d - n_C$    | 0,003833 |
| $n_e - n_C$    | 0,006838 |
| $n_g - n_d$    | 0,015640 |
| $n_g - n_F$    | 0,006868 |
| $n_h - n_g$    | 0,005714 |
| $n_i - n_g$    | 0,015476 |
| $n_{C'} - n_t$ | 0,010994 |
| $n_e - n_{C'}$ | 0,006228 |
| $n_F - n_e$    | 0,006486 |
| $n_i - n_F$    | 0,021625 |

| Relative Teildispersion |        |
|-------------------------|--------|
| $\theta_{C,t}$          | 0,8238 |
| $\theta_{C,A'}$         | 0,3478 |
| $\theta_{d,C}$          | 0,3041 |
| $\theta_{e,C}$          | 0,5425 |
| $\theta_{g,d}$          | 1,2408 |
| $\theta_{g,F}$          | 0,5449 |
| $\theta_{h,g}$          | 0,4533 |
| $\theta_{i,g}$          | 1,2278 |
| $\theta'_{C',t}$        | 0,8647 |
| $\theta'_{e,C'}$        | 0,4899 |
| $\theta'_{F,e}$         | 0,5101 |
| $\theta'_{i,F'}$        | 1,7009 |

| Abweichung relativer Teildispersion |         |
|-------------------------------------|---------|
| $\Delta \theta_{C,t}$               | 0,0199  |
| $\Delta \theta_{C,A'}$              | 0,0055  |
| $\Delta \theta_{g,d}$               | -0,0101 |
| $\Delta \theta_{g,F}$               | -0,0079 |
| $\Delta \theta_{i,g}$               | -0,0382 |

| Thermische Eigenschaften                      |       |
|-----------------------------------------------|-------|
| Untere Kühltemperatur StP (°C)                | 606   |
| Obere Kühltemperatur AP (°C)                  | 630   |
| Transformationstemperatur Tg (°C)             | 653   |
| Ausdehnungsgrenze At (°C)                     | 679   |
| Erweichungstemperatur SP (°C)                 | 707   |
| Ausdehnungskoeffizienten (-30~+70°C)          | 61    |
| $\alpha$ (10 <sup>-7</sup> /°C) (+100~+300°C) | 74    |
| Wärmeleitfähigkeit k (W/m·K)                  | 0,895 |

| Färbung        |     |             |     |
|----------------|-----|-------------|-----|
| $\lambda_{80}$ | 375 | $\lambda_5$ | 295 |
| $\lambda_{70}$ |     |             |     |

| Reintransmissionsgrad |     |                  |     |
|-----------------------|-----|------------------|-----|
| $\lambda_{0.80}$      | 358 | $\lambda_{0.05}$ | 301 |

| CCI  |      |      |
|------|------|------|
| B    | G    | R    |
| 0,00 | 0,51 | 0,52 |

| Reintransmissionsgrad |             |
|-----------------------|-------------|
| $\lambda(nm)$         | $\tau$ 10mm |
| 280                   |             |
| 290                   | 0,01        |
| 300                   | 0,04        |
| 310                   | 0,11        |
| 320                   | 0,22        |
| 330                   | 0,38        |
| 340                   | 0,55        |
| 350                   | 0,70        |
| 360                   | 0,82        |
| 370                   | 0,89        |
| 380                   | 0,936       |
| 390                   | 0,960       |
| 400                   | 0,973       |
| 420                   | 0,985       |
| 440                   | 0,988       |
| 460                   | 0,992       |
| 480                   | 0,994       |
| 500                   | 0,995       |
| 550                   | 0,997       |
| 600                   | 0,996       |
| 650                   | 0,997       |
| 700                   | 0,998       |
| 800                   | 0,998       |
| 900                   | 0,997       |
| 1000                  | 0,996       |
| 1200                  | 0,996       |
| 1400                  | 0,992       |
| 1600                  | 0,992       |
| 1800                  | 0,984       |
| 2000                  | 0,963       |
| 2200                  | 0,89        |
| 2400                  | 0,66        |

| Andere Eigenschaften |      |
|----------------------|------|
| Dichte d             | 3,63 |

| Temperaturkoeffizienten der Brechzahl |                                      |     |       |     |     |     |     |
|---------------------------------------|--------------------------------------|-----|-------|-----|-----|-----|-----|
| Temperaturbereich<br>(°C)             | dn/dT relativ (10 <sup>-6</sup> /°C) |     |       |     |     |     |     |
|                                       | t                                    | C'  | He-Ne | D   | e   | F'  | g   |
| -40~-20                               | 3,4                                  | 3,8 | 3,8   | 3,9 | 4,1 | 4,4 | 4,8 |
| -20~ 0                                | 3,4                                  | 3,8 | 3,8   | 4,0 | 4,1 | 4,5 | 4,9 |
| 0~20                                  | 3,5                                  | 3,9 | 3,9   | 4,0 | 4,2 | 4,6 | 5,0 |
| 20~40                                 | 3,5                                  | 3,9 | 3,9   | 4,1 | 4,3 | 4,7 | 5,1 |
| 40~60                                 | 3,6                                  | 4,0 | 4,0   | 4,2 | 4,3 | 4,8 | 5,2 |
| 60~80                                 | 3,7                                  | 4,0 | 4,0   | 4,2 | 4,4 | 4,8 | 5,3 |