

| Glass - Chemical Resistance | | | | | |
|---|-----------------------------|-----------------------|----------------|-----------------|---------------|
| | Acids - concentrated | Acids - dilute | Alkalis | Halogens | Metals |
| Fused Silica SiO ₂ | Good | Good | Fair | Good | Fair |
| MACOR[®] Machinable Glass Ceramic SiO ₂ 46/Al ₂ O ₃ 16/MgO 17/K ₂ O 10/B ₂ O ₃ 7 | Poor | Fair | Fair | - | - |

| Glass - Electrical Properties | | |
|---|--|---|
| | Electrical resistivity μOhmcm | Volume resistivity Ohmcm |
| Cobalt/Boron/Silicon/Iron/ Molybdenum/Nickel Co69/B 12/Si12/Fe 4/Mo 2/Ni 1 | 136 | - |
| Cobalt/Silicon/Boron/Iron/ Nickel Co66/Si15/B 14/Fe 4/Ni 1 | 142 | - |
| Cobalt/Silicon/Boron/ Manganese Co70/Si + B 23/Mn 5/Fe + Mo 2 | 130 | - |
| Cobalt/Silicon/Molybdenum/ Iron/Boron/Niobium Co78/Si 9/Mo 5/Fe 4/B 2/Nb 2 | 135 | - |
| Fused Silica SiO₂ | - | 10 ¹⁴ @25C |
| Iron/Boron/Silicon Fe77.5/B 15/Si 7.5 | 124 | - |
| Iron/Boron/Silicon Fe78/B 13/Si 9 | 137 | - |
| Iron/Boron/Silicon Fe79/B 16/Si 5 | 125 | - |
| Iron/Boron/Silicon Fe81/B 13.5/Si 3.5/C 2 | 135 | - |
| Iron/Nickel/Boron Fe40/Ni38/B 18/Mo 4 | 740 | - |
| MACOR[®] Machinable Glass Ceramic SiO₂ 46/Al₂O₃ 16/MgO 17/K₂O 10/B₂O₃ 7 | - | > 10 ¹⁴ @25C |
| Nickel/Boron/Silicon Ni78/B 14/Si 8 | 90 | - |
| Nickel/Iron/Silicon/Boron Ni40/Fe40/Si + B 19/Mo 1-2 | 135 | - |

| Glass - Magnetic Properties | | | | | | |
|---|--|--------------------------------|-----------------------------|--------------------------------|--------------------------------------|---|
| | Coercivity - as cast A m⁻¹ | Curie temperature C | Maximum permeability | Remanence ratio - Br/Bs | Saturation flux density T | Saturation magnetostriction x10⁻⁶ |
| Cobalt/Boron/Silicon/Iron/ Molybdenum/Nickel Co69/B 12/Si12/Fe 4/Mo 2/Ni 1 | 0.8 | 365 | - | 0.83 | 0.70 | < 1 |
| Cobalt/Silicon/Boron/Iron/ Nickel Co66/Si15/B 14/Fe 4/Ni 1 | 0.24 | 205 | - | 0.82 | 0.55 | < 1 |
| Cobalt/Silicon/Boron/ Manganese Co70/Si+B 23/Mn 5/Fe + Mo 2 | < 1 | 350 | - | 0.7-0.95 | 0.8 | < 0.3 |
| Cobalt/Silicon/Molybdenum/ Iron/Boron/Niobium Co78/Si 9/Mo 5/Fe 4/B 2/Nb 2 | - | 240 | - | - | 0.58 | - |
| Fused Silica SiO₂ | 1.46 | - | 365-2500nm | 1715 | 3.8 | - |
| Iron/Boron/Silicon Fe77.5/B 15/Si 7.5 | - | 422 | - | - | - | - |
| Iron/Boron/Silicon Fe78/B 13/Si 9 | 14 | 415 | - | 0.76 | 1.56 | 27 |
| Iron/Boron/Silicon Fe79/B 16/Si 5 | 16 | 405 | - | 0.19 | 1.58 | 27 |
| Iron/Boron/Silicon Fe81/B 13.5/Si 3.5/C 2 | 6.37 | 370 | - | 0.7 | 1.6 | 30 |
| MACOR[®] Machinable Glass Ceramic SiO₂ 46/Al₂O₃ 16/MgO 17/K₂O 10/B₂O₃ 7² | - | 40 | - | - | 5.9 | - |
| Nickel/Iron/Silicon/Boron Ni40/Fe40/Si + B 19/Mo 1-2 | < 1 | 260 | - | < 1 | 0.8 | 8 |

| Glass - Mechanical Properties | | | | | |
|---|-------------------------------------|----------------------------------|---|--------------------------------|---------------------------------|
| | Compressive strength MPa | Elongation at break % | Hardness - Vickers kgf mm⁻² | Tensile modulus GPa | Tensile strength MPa |
| Cobalt/Boron/Silicon/Iron/ Molybdenum/Nickel Co69/B 12/Si12/Fe 4/Mo 2/Ni 1 | - | - | 900 | 63 | > 700 |
| Cobalt/Silicon/Boron/Iron/ Nickel Co66/Si15/B 14/Fe 4/Ni 1 | - | - | 960 | 61 | > 700 |
| Cobalt/Silicon/Boron/ Manganese Co70/Si+B 23/Mn 5/Fe+ Mo 2 | - | - | 900 | 150 | 1500-2000 |
| Fused Silica SiO₂ | - | - | 490 | 65-75 | - |
| Iron/Boron/Silicon Fe77.5/B 15/Si 7.5 | - | 2.3 | 940 | 155 | - |
| Iron/Boron/Silicon Fe78/B 13/Si 9 | - | - | 860 | 57 | > 700 |
| Iron/Boron/Silicon Fe79/B 16/Si 5 | - | - | 900 | - | 1500 |
| Iron/Boron/Silicon Fe81/B 13.5/Si 3.5/C 2 | - | - | 880 | 58 | > 700 |
| Iron/Nickel/Boron Fe40/Ni38/B 18/Mo 4 | - | - | 125 | 0-100\ 11.7 | - |
| MACOR[®] Machinable Glass Ceramic SiO₂ 46/Al₂O₃ 16/MgO 17/K₂O 10/B₂O₃ 7 | 345 | - | 400 | 67 | - |
| Magnetic Copper Cu99.96/Fe 0.04 | - | 1.1 | - | - | 539 |
| Nickel/Boron/Silicon Ni78/B 14/Si 8 | - | - | 850 | 150 | 1500-2000 |
| Nickel/Iron/Silicon/Boron Ni40/Fe40/Si+B 19/Mo 1-2 | - | - | 800 | 150 | 1500-2000 |

| Glass - Physical Properties | | | |
|---|--------------------------------|--------------------------------------|--|
| | Apparent porosity % | Density g cm⁻³ | Water absorption - saturation % |
| Borosilicate Glass SiO ₂ 81% / B ₂ O ₃ 13% / Na ₂ O 4% | - | 2.23 | - |
| | - | - | - |
| Carbon - Vitreous - 1000C C | - | 1.5 | - |
| | - | - | - |
| Cobalt/Boron/Silicon/Iron/ Molybdenum/Nickel Co69/B 12/Si12/Fe 4/Mo 2/Ni 1 | - | 7.80 | - |
| Cobalt/Silicon/Boron/Iron/ Nickel Co66/Si15/B 14/Fe 4/Ni 1 | - | 7.59 | - |
| Cobalt/Silicon/Boron/ Manganese Co70/Si + B 23/Mn 5/Fe + Mo 2 | - | 7.6 | - |
| Cobalt/Silicon/Molybdenum/ Iron/Boron/Niobium Co78/Si 9/Mo 5/Fe 4/B 2/Nb 2 | - | 7.75 | - |
| Fused Silica SiO ₂ | 0 | 2.18 | 0 |
| Iron/Boron/Silicon Fe78/B 13/Si 9 | - | 7.18 | - |
| Iron/Boron/Silicon Fe79/B 16/Si 5 | - | 7.28 | - |
| Iron/Boron/Silicon Fe81/B 13.5/Si 3.5/C 2 | - | 7.32 | - |
| Iron/Nickel/Boron Fe40/Ni38/B 18/Mo 4 | - | 7.90 | - |
| MACOR[®] Machinable Glass Ceramic SiO ₂ 46/Al ₂ O ₃ 16/MgO 17/K ₂ O 10/B ₂ O ₃ 7 | 0 | 2.52 | - |
| Magnetic Copper Cu99.96/Fe 0.04 | - | 8.96 | - |
| Nickel/Boron/Silicon Ni78/B 14/Si 8 | - | 8.0 | - |
| Nickel/Iron/Silicon/Boron Ni40/Fe40/Si + B 19/Mo 1-2 | - | 7.4 | - |
| Opal SiO ₂ /H ₂ O | - | 2.09 | - |

| Glass - Physical Properties | | | |
|---|--------------------------------|--------------------------------------|--|
| | Apparent porosity % | Density g cm⁻³ | Water absorption - saturation % |
| Soda Lime Glass SiO ₂ 70/Na ₂ O 15/CaO 10/ MgO/B ₂ O ₃ /Al ₂ O ₃ | - | 2.5 | - |
| Topaz (Yellow Imperial) Al ₂ SiO ₅ (F,OH) ₂ | - | 3.55 | - |
| Turquoise CuAl ₆ (PO ₄) ₄ (OH) | - | 2.7 | - |

| Glass - Thermal Properties | | | | | | |
|---|---|--|---|---|---|---|
| | Coefficient of thermal expansion x10⁻⁶ K⁻¹ | Crystallization temperature C | Maximum use temperature in air C | Specific heat J K⁻¹ kg⁻¹ | Thermal conductivity W m⁻¹ K⁻¹ | Upper continuous use temperature C |
| Cobalt/Boron/Silicon/Iron/ Molybdenum/Nickel Co69/B 12/Si12/Fe 4/Mo 2/Ni 1 | - | 520 | 80 | - | - | - |
| Cobalt/Silicon/Boron/Iron/ Nickel Co66/Si15/B 14/Fe 4/Ni 1 | - | 550 | 80 | - | - | - |
| Cobalt/Silicon/Boron/ Manganese Co70/Si+B 23/Mn 5/Fe+Mo 2 | - | 450 | 80-120 | - | - | - |
| Cobalt/Silicon/Molybdenum/ Iron/Boron/Niobium Co78/Si 9/Mo 5/Fe 4/B 2/Nb 2 | 12 @ 20-100C | - | - | - | - | - |
| Fused Silica SiO₂ | 0.5-0.75 @20-1000C | - | - | 750 @25C | 1.2-1.4 @20C | 900-1200 |
| Iron/Boron/Silicon Fe77.5/B 15/Si 7.5 | 8.7 @20C | 553 | - | - | - | - |
| Iron/Boron/Silicon Fe78/B 13/Si 9 | - | 550 | 150 | - | - | - |
| Iron/Boron/Silicon Fe79/B 16/Si 5 | - | 515 | 150 | - | - | - |
| Iron/Boron/Silicon Fe81/B 13.5/Si 3.5/C 2 | - | 480 | 125 | - | - | - |
| Iron/Nickel/Boron Fe40/Ni38/B 18/Mo 4 | - | - | - | - | 100-110 | - |
| MACOR[®] Machinable Glass Ceramic SiO₂ 46/Al₂O₃ 16/MgO 17/K₂O 10/B₂O₃ 7 | 13 @20-1000C | - | - | 790 @25C | 1.5 @20C | 800-1000 |
| Magnetic Copper Cu99.96/Fe 0.04 | - | - | - | - | 401 @23C | - |
| Nickel/Boron/Silicon Ni78/B 14/Si 8 | - | 450 | 200 | - | - | - |
| Nickel/Iron/Silicon/Boron Ni40/Fe40/Si+B 19/Mo 1-2 | - | 450 | 120 | - | - | - |