Properties of POBCO Materials

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ENGINEERING DATA** | **POBCO-B HARDWOOD** | **UHMW** | **LUBE-FILLED UHMW PLUS®** | **REPRO UHMW** | **(7) HI-TEMP. UHMW** | **(13) HI-WEAR UHMW** | **DRYWEAR UHMW** | **(11) NYWEAR** | **NYLON** | **(10) NYLON MD** |
| CODE LETTERS | B | U | P | UR | UH | CP | DW | NW | N | MD |
| P.V. Cap psi-fpm (1) | 12,000 | 2,000 | 12,000 | 2,000 | 2,000 | 2,300 | 4,000 | 16,000 | 2,500 | 3,500 |
| Max. Surface Speed fpm | 500 | 100 | 300+ | 100 | 100 | 100 | 150 | 150 | 100 | 150 |
| Static Load Cap. psi | 1,000 | 1,000 | 600 | 900 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| Service Temp. Range (2) oF | 180 | 180 | 165 | 180 | 275 | 200 | 180 | 230+ | 220 | 220 |
| Coef. of Friction Ave. | .09 | .15-.20 | .06-.12 | .15-.20 | .15-.20 | .16-.18 | .15 | .15 | .19 | .17 |
| Abrasion Resistance (3) | 1-3 | 1-2 | 1-2 | 1-2 | 1-2 | 1 | 1-2 | 3 | 3 | 3 |
| Dim. Stability in Water | Fair | Exc. | Exc. | Exc. | Exc. | Exc. | Exc. | Good | Fair | Fair |
| USDA/FDA Compliant | Indirect | yes | yes | no | yes | no | no | yes\* | yes | no |
| Chemical Resistance at 73o F\* | | | | | | | | | | |
| Acid Weak | A | A | A | A | A | A | A | A | A | A |
| Acid Strong | L | L | L | L | L | A | L | U | U | U |
| Alkalies Weak | A | A | A | A | A | A | A | A | A | A |
| Alkalies Strong | L | A | A | A | A | A | A | A | A | A |
| Hydrocarbon Aromatic | - | L | L | L | L | A | L | A | A | A |
| Hydrocarbon Aliphatic | - | A | A | A | A | A | A | A | A | A |
| Ketones | - | A | A | A | A | A | A | A | A | A |
| Ethers | - | A | A | A | A | A | A | A | A | A |
| Alcohols | - | A | A | A | A | A | A | A | A | A |
| Inorganic Salt Solution | A | A | A | A | A | A | A | A | - | A |
| Continuous Sunlight | A | U\*\* | L | L | L | A | L | L | L | L |
| Standard Color | Brown | White | Grey/Brown | Black/Green | White | Black/Green | Black | Natural | White/Grey | Black |
| Low Temp oF\* | - | -200 | - | -200 | - | - |  | -10 | -10 | -10 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ENGINEERING DATA** | **ACETAL DELRIN®** | **(8) ACETAL AF** | **VIRGIN PTFE** | **GLASS FILLED PTFE** | **POBLON** | **RULON® 641** | **RULON® LR BEARING GRADE** | **ERTALYTE®** | **UNFILLED PEEK** |
| CODE LETTERS | D | DT | T | GT | TM | RF | RB | YT | PK |
| P.V. Cap psi-fpm (1) | 2,000 | 8,000 | 1,000 | 10,000 | 10,000 | 10,000 | 10,000 | 2,800 | 14,000 |
| Max. Surface Speed fpm | 100 | 150 | 100 | 400 | 400 | 400 | 400 | 125 | 100 |
| Static Load Cap. psi | 2,000 | 2,000 | 400 | 800 | 1,000 | 1,000 | 1,000 | 2,000 | 6,000 |
| Service Temp. Range (2)oF | 180 | 200 | 450 | 500 | 500 | 550 | 550 | 210 | 480 |
| Coef. of Friction Ave. | .22 | .08-.14 | .06-.15 | .10-.13 | .10-.30 | .10-.30 | .15-.25 | .20 | .20 |
| Abrasion Resistance (3) | 5 | 1-2 | 5 | 1-2 | 1-2 | 1-2 | 1-2 | 3 | 1-2 |
| Dim. Stability in Water | Good | Good | Exc. | Exc. | Exc. | Exc. | Exc. | Good | Exc. |
| USDA/FDA Compliant | yes | maybe | yes | no | Yes | yes | no | yes | yes |
| Chemical Resistance at 73o F\* | | | | | | | | | |
| Acid Weak | A | S | A | A | A | A | A | A | A |
| Acid Strong | U | U | A | A | A | A | A | L | L |
| Alkalies Weak | A | A | A | A | A | A | A | A | A |
| Alkalies Strong | U | U | A | A | A | A | A | U | A |
| Hydrocarbon Aromatic | A | A | A | A | A | A | A | A | A |
| Hydrocarbon Aliphatic | A | A | A | A | A | A | A | A | A |
| Ketones | A | A | A | A | A | A | A | L | A |
| Ethers | A | A | A | A | A | A | A | A | A |
| Alcohols | A | A | A | A | A | A | A | A | A |
| Inorganic Salt Solution | - | A | A | A | A | A | A | A | A |
| Continuous Sunlight | U | L | A | A | A | A | A | A | - |
| Standard Color | White | Brown | White | White | White | White | Maroon | White | Beige |
| Low Temp oF\* | -40 | -40 | -200 | -200 | -400 | -200 | -200 | - | - |

\*For Plastics – Dry Clearance is Standard

#1 At Room Temperature #2 At Low PV Levels

#3 Rating 1 (Excellent) to 5 (Fair)

#5 A=Acceptable L=Limited U=Unacceptable

#7 Thermal Expansion Is Up To 25% Less Than Normal UHMW with extended wear life

#8 PTFE-Filled Acetal

#10 Moly-Filled Nylon

#11 Lube-Filled Nylon - Bearing Grade Green, FDA Compliant Off White

#12 Green & Black Reprocessed UHMW

#13 33% More Wear Resistant than unfilled UHMW