## **Alro Plastics**



## *Hydlar® Z*

## Hydlar®Z - aramid (Kevlar®) fiber filled Nylon

HYDLAR® is applicable to a wide variety of industrial applications where high strength, extreme wear resistance and low abrasiveness are required. Typical applications would be wear strips, bearings, bushings, rollers, gears and wherever wear and abrasion resistant materials are required.

|            | Properties                    | ASTM Test Method | Units     | Injection Molded & Extruded |                        |                        |
|------------|-------------------------------|------------------|-----------|-----------------------------|------------------------|------------------------|
|            |                               |                  |           | Nylon 6/6                   | Nylon 6/6 30% GF       | HYDLAR® Z              |
| Physical   | Base Material                 | 2                | 12        | None                        | Glass                  | Aramid                 |
|            | Content                       | 9                | %         | 0%                          | 30%                    | N/A                    |
|            | Specific Gravity 73°F         | D792             | ~         | 1.14                        | 1.38                   | 1.16                   |
|            | Water Absorption 24 hrs       | D570             | %         | 1.2                         | 7                      | .8                     |
|            | Water Absorption              |                  |           |                             |                        |                        |
|            | Saturation 73°F               | D570             | %         | 8.5                         | 5.4                    | 6.3                    |
| Mechanical | Tensile Strength              | D638             | psi x 103 | 12.0                        | 27.0                   | 16.0                   |
|            | Tensile Modulus               | D638             | psi x 106 |                             | 1.5                    | 1.3                    |
|            | Elongation                    | D638             | %         | 66.0                        | 3.0                    | 4.0                    |
|            | Flexural Strength             | D790             | psi x 103 | 17.4                        | 100                    | 23.0                   |
|            | Flexural Modulus              | D790             | psi x 106 | .41                         | 1.3                    | 0.9                    |
|            | Notched Izod Impact           | D256             | ft lbs/in | 1.0                         | 2.0                    | 2.7                    |
|            | Compressive Strength          | D695             | psi x 103 | 13.0                        | 24.0                   | 19.3                   |
|            | Wear Factor***                | D3702            | 2         | 860 to 1100                 | 424                    | 79 - 128               |
|            | Galling of Mating             |                  |           |                             |                        |                        |
|            | Test Surface                  | ¥                | 94        | Minor                       | Severe                 | None                   |
| Thermal    | Heat Deflection Temp. 264 psi | D648             | °F        | 194                         | 180                    | 470                    |
|            | Continuous Use Temp.          |                  | °F        | 210                         | 230                    | 300                    |
|            | Coefficient of Linear         |                  |           |                             |                        |                        |
|            | Thermal Expansion             | D696             | in/in/°F  | 4.0 x 10- <sup>5</sup>      | 1.3 x 10- <sup>5</sup> | 1.6 x 10- <sup>5</sup> |

<sup>\*\*\*</sup> ASTM Thrust Washer Test: PV=2,500 P=250PSI V=10 f.p.m.

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