

High wear resistance grade S series (ESTERAR / TPC)

ARONKASEI CO., LTD.

| Item                                            | Test Method    |                    | Unit    | ES-A50S1<br>(※3)          | ES-A70S1  | E-D27S1   | E-D53S1<br>(※3) |
|-------------------------------------------------|----------------|--------------------|---------|---------------------------|-----------|-----------|-----------------|
|                                                 | Characteristic |                    | -       | High wear resistance      |           |           |                 |
| Hardness                                        | JIS K 6253     | typeA              | point   | 48                        | 75        | 80        | 97              |
|                                                 |                | typeD              | 〃       | 11                        | 21        | 23        | 49              |
| Specific Gravity                                | JIS K 7112     |                    | -       | 0.96                      | 0.99      | 1.07      | 1.18            |
| Melt Flow Rate                                  | ASTM D 1238    | 170℃×21.2N         | g/10min | -                         | -         | 1         | -               |
|                                                 |                | 210℃×21.2N         | 〃       | -                         | -         | -         | 8               |
|                                                 |                | 230℃×21.2N         | 〃       | 1.8                       | 6.9       | -         | -               |
| Tensile strength                                | JIS K 6251     |                    | MPa     | 5.2                       | 6.7       | 22        | 22              |
| Elongation                                      | 〃              |                    | %       | 750                       | 760       | 1050      | 730             |
| Tear Strength                                   | JIS K 6252     |                    | kN/m    | 22                        | 42        | 76        | 119             |
| Rebound resilience                              | JIS K 6255     |                    | %       | 71                        | 65        | 71        | 58              |
| Taber abrasion Test                             | JIS K 6264     | H22×9.8N×1000Cycle | mg      | 83                        | 23        | 2         | 8               |
| Compression Set                                 | JIS K 6262     | 23℃×24hr           | %       | 17                        | 23        | 26        | 12              |
|                                                 |                | 70℃×24hr           |         | 50                        | 50        | 56        | 52              |
|                                                 |                | 100℃×24hr          |         | 64                        | 59        | 70        | 60              |
| Softening Temperature                           | our method ※1  |                    | ℃       | 70                        | 106       | 111       | 189             |
| Brittleness Temperature                         | JIS K 7216     |                    | ℃       | <-60                      |           |           |                 |
| Mold Shrinkage<br>(Vertical/Flowing directions) | our method ※2  |                    | %       | 0.0 / 2.7                 | 0.5 / 1.3 | 0.2 / 0.4 | 1.4 / 1.4       |
| Molding Method                                  | -              |                    | -       | Injection ・ Extrusion     |           |           |                 |
| Drying                                          | -              |                    | -       | necessary(80～90℃×3～4hour) |           |           |                 |
| Color                                           | -              |                    | -       | Natural                   |           |           |                 |
| Fusion strength                                 | our method     | PP                 | -       | ×                         | ×         | ×         | ×               |
|                                                 |                | ABS                | -       | ○                         | ○         | △         | ×               |
|                                                 |                | PC                 | -       | ○                         | ○         | ○         | ○               |

The values shown in the table are representative ones and not guaranteed.  
The figures in the table are subject to change without notice.  
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※1 Softening temperature measurement method: Vicat softening temperature (at temperature rise rate of 50℃/hour and load of 2.5N) was determined with a needle inserted by 1mm.  
※2 Shrinkage : A film gate sheet (126mm x 126mm x 2mm) was formed (at mold temperature of 40℃ and cooling period of 40 seconds) .  
※3 This is a grade that is made to order and sold.