KANAI

# STEEL FLANGE RINGS
# STEEL RING TRAVELLERS

## FOR SHORT STAPLE SPINNINGS

*Kanai Juyo Kogyo Co.,Ltd.*

# Surface Treatment of Travellers

## New Falcon (NFC)

Special heat treatment and surface treatment which has been improved in life,especially on the high speed spinning condition and compact yarn.
The service life is to be greatly prolonged from that of conventional treatment at high speed spinning.

特殊な熱処理と表面処理の適用により、寿命延長と高速性を実現したトラベラで、特に高速紡出及びコンパクト糸の紡出において従来品より大幅な寿命延長が得られます。

## New Mega (NMG)

Special compound layer which has excellent lubricating function given to the surface by special surface treatment and this is very effective for quick break-in, reducing yarn-breakage and extending service life even in high speed spinning.

特殊表面処理方法により潤滑性に富む化合物層を表面に掲載させたことによりリングとのなじみが向上し、高速紡出の条件でも糸切れの減少とトラベラ寿命の延長が得られます。

## Toughmat (TM) / Hi-Ni

Wear resitance has been improved due to the additional special alloy element to high carbon steel and also because of the material used in unifrom in quality.
Provided with special nickel plating which decreases traveller burn and will improve break-in of traveller.

高炭素鋼に特殊合金元素を添加した高純度の新素材を用い、独自の熱処理により耐摩耗性を更に向上させ、特殊なニッケルメッキをほどこしたトラベラです。

# Kanai's Traveller Recommendation

| | | Application Traveller | Flange Size(mm) | | | Performance | | | High Quality Yarn | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2.5 | 3,2 | 4.0 | Break-age | High Speed | Dura-bility | Yarn fluff | Fiber fusing |
| Cotton 100% | ～Ne10 | TM BZ/hf | | ▲ | ● | | | ○ | ◎ | |
| | Ne10～20 | TM Z/hf | | ▲ | ● | | | ○ | ◎ | |
| | | NFC ZS/hf | | ● | | | ◎ | ◎ | ◎ | |
| | Ne20～40 | NFC ZS/hf | | ● | | | ◎ | ◎ | ◎ | |
| | | NFC MSR/hf | | ● | | ◎ | ◎ | ◎ | ○ | |
| | Ne40～100 | NFC OSY/hf | | ● | | ◎ | | ○ | ◎ | |
| | | NFC ESY/h f | | ● | | ○ | ◎ | ◎ | ○ | |
| | | NFC MSR/hf | | ● | | ◎ | ◎ | ◎ | ○ | |
| | Ne80～ | TM OSS/hf | ● | | | ◎ | | ○ | ◎ | |
| | | NFC ESS/hf | ● | | | ○ | ◎ | ◎ | ○ | |
| Compact | Ne30～ | NFC ESZ/hf | | ● | | ◎ | ◎ | ○ | ◎ | |
| | | NFC ESR/hf | | ● | | ○ | ◎ | ◎ | ◎ | |
| Polyester/Cotton | ～Ne20 | TM Z/hf | | ▲ | ● | | | ○ | ◎ | ◎ |
| | | TM BZ/hf | | ▲ | ● | | | ○ | ◎ | ◎ |
| | Ne20～60 | NFC ZS/hf | | ● | | | ○ | ◎ | ◎ | ◎ |
| | | NFC MSR/hf | | ● | | ◎ | ◎ | ◎ | ○ | ○ |
| | Ne60～ | NFC MSR/hf | | ● | | ◎ | ◎ | ◎ | ○ | ○ |
| Polyester/Rayon | ～Ne30 | TM OY/hf-N | | ● | | ◎ | | | ◎ | ◎ |
| | | NFC MSR/hf | | ● | | ◎ | ◎ | ◎ | ○ | ○ |
| | Ne30～ | NFC ZS/hf | | ● | | | ○ | ◎ | ◎ | ◎ |
| | | NFC MSR/hf | | ● | | ◎ | ◎ | ◎ | ○ | ○ |
| Polyester 100% | ～Ne20 | TM Z/hf | | ▲ | ● | | | ◎ | ◎ | ◎ |
| | | TM BZ/hf | | ▲ | ● | | | ◎ | ◎ | ◎ |
| | Ne20～ | NFC MSR/hf | | ● | | ◎ | ◎ | ◎ | ○ | ○ |
| Acrylic 100% | ～Ne20 | Hi-Ni OH | | ▲ | ● | ◎ | | | ◎ | ◎ |
| | Ne20～ | Ni-Ni OYH | | ● | | ◎ | | | ◎ | ◎ |
| Rayon 100% | ～Ne30 | Hi-Ni O/hf | | ▲ | ● | ◎ | | | ◎ | |
| | | TM O/hf-N | | ▲ | ● | ◎ | | ○ | ◎ | |
| | | NFC MSR/hf | | ● | | ◎ | ◎ | ◎ | ○ | |
| | Ne30～ | Hi-Ni OY/h f | | ● | | ◎ | | | ◎ | |
| | | NFC MSR/hf | | ● | | ◎ | ◎ | ◎ | ○ | |
| Core Yarn (Lycra) | Ne30～ | NFC MSR/hf | | ● | | ◎ | ○ | ◎ | ○ | |
| Dyed Synthetics | Ne30～ | NFC MSR/hf | | ● | | ◎ | ◎ | ◎ | ○ | |

Remarks ◎ = Splendid, ○ = Good NFC (or TM) MS/hf is applicable in place of NFC MSR/hf.
▲ is mainly used on No.2 Flange rings.

# Kanai C-shaped Travellers

| Flange Size | Traveller Type | Shape | Cross Section | | Number Min | Number Max | Grade | Remarks |
|---|---|---|---|---|---|---|---|---|
| No.1 (3.2mm) | ESY/hf |  | hf |  | 24/0 | No.2 | NFC | |
| | ESZ/hf |  | hf |  | 26/0 | 5/0 | NFC | |
| | ESR/hf |  | hf |  | 20/0 | 5/0 | NFC | |
| | MS/hf |  | hf |  | 20/0 | No.15 | NFC | ＊ |
| | MS/hf-W | | hf-W |  | 8/0 | No.5 | NMG | |
| | MSR/hf |  | hf |  | 15/0 | No.5 | NFC | |
| | OS |  | F |  | 25/0 | No.20 | Hi-Ni | |
| | OSY |  | F |  | 15/0 | No.5 | NFC | ＊ |
| | | | R |  | 16/0 | 20/0 | | |
| | OSY/hf | | hf |  | 15/0 | No.2 | NFC | |
| | OYH |  | H |  | 5/0 | No.10 | Hi-Ni | |
| | OY |  | F |  | 7/0 | No.10 | Hi-Ni | |
| | OY/hf-N | | hf-N |  | 7/0 | No.8 | TM | |
| | Super OS |  | Super |  | 10/0 | No.8 | Hi-Ni | |
| | YS-2 |  | F |  | 18/0 | No.5 | TM | |
| | YS-2/hf | | hf |  | 18/0 | No.5 | NFC | ＊ |
| | YS-2/hf-W | | hf-W |  | 6/0 | No.5 | NFC | |
| | ZS/hf |  | hf |  | 14/0 | No.12 | NFC/TM | |
| | ZSB/hf |  | hf |  | 14/0 | No.3 | TM | |
| | ZSC/hf |  | hf |  | 14/0 | No.10 | NFC/TM | ＊ |

Rmarkes : "＊" marked traveller available with NMG grade.

| Flange Size | Traveller Type | Shape | Cross Section | | Number Min | Number Max | Grade | Remarks |
|---|---|---|---|---|---|---|---|---|
| No.1/2 (2.5mm) | ESS/hf |  | hf |  | 30/0 | 11/0 | NFC | |
| | OSS |  | F |  | 15/0 | No.2 | Hi-Ni | |
| | | | R |  | 30/0 | 16/0 | | |
| | OSS/hf | | hf |  | 30/0 | 1/0 | NFC/TM | |
| No.2 (4.0mm) | BZ/hf |  | hf |  | No.3 | No.30 | TM | |
| | PK/hf |  | hf |  | 5/0 | No.15 | TM | |
| | Z/hf |  | hf |  | 5/0 | No.14 | TM | |
| | O |  | F |  | 8/0 | 40 | Hi-Ni | |
| | OH |  | H |  | 8/0 | No.20 | Hi-Ni | |
| | OH-WZ |  | H |  | 5/0 | No.15 | TM | |
| | Super O |  | Super |  | 5/0 | No.15 | Hi-Ni | |
| | YZ/hf |  | hf |  | No.5 | No.30 | TM | |
| | R |  | R |  | 1/0 | No.22 | Hi-Ni | |
| Above (4.4mm) | GR |  | N |  | No.1 | No.40 | Hi-Ni | |

Rmarkes : "＊" marked traveller available with NMG grade.

# Comparative Chart of Traveller Weights

| Traveller Number | KANAI "TM" | KANAI "NFC" | Braecker | R+F | A.B.Carter |
|---|---|---|---|---|---|
| 15 | 276 | 272 | 265 | 250 | 265 |
| 14 | 260 | 253 | 250 | 236 | 250 |
| 13 | 240 | 233 | 224 | 224 | 224 |
| 12 | 220 | 214 | 200 | 200 | 200 |
| 11 | 199 | 194 | 180 | 180 | 180 |
| 10 | 175 | 169 | 160 | 160 | 160 |
| 9 | 154 | 149 | 140 | 140 | 140 |
| 8 | 136 | 130 | 125 | 125 | 125 |
| 7 | 122 | 117 | 112 | 112 | 112 |
| 6 | 109 | 104 | 100 | 106 | 100 |
| 5 | 95 | 91 | 95 | 95 | 95 |
| 4.5 | 91 | 88 | - | - | - |
| 4 | 88 | 84 | 90 | 85 | 90 |
| 3.5 | 85 | 81 | - | - | - |
| 3 | 81 | 78 | 80 | 80 | 80 |
| 2.5 | 78 | 75 | - | - | - |
| 2 | 74 | 71 | 71 | 71 | 71 |
| 1.5 | 68 | 65 | - | 63 | - |
| 1 | 62 | 58 | 63 | 60 | 63 |
| 0.5 | 58 | 55 | - | - | - |

* Weight = mg/1,000pcs

| Traveller Number | KANAI "TM" | KANAI "NFC" | Braecker | R+F | A.B.Carter |
|---|---|---|---|---|---|
| 1/0 | 55 | 52 | 56 | 50 | 56 |
| 1.5/0 | 51 | 49 | - | - | - |
| 2/0 | 48 | 45 | 50 | 45 | 50 |
| 2.5/0 | 45 | 42 | - | - | - |
| 3/0 | 42 | 39 | 45 | 40 | 45 |
| 3.5/0 | 39.8 | 37.3 | - | - | - |
| 4/0 | 38.3 | 35.6 | 40 | 35.5 | 40 |
| 4.5/0 | 36.5 | 34.0 | - | - | - |
| 5/0 | 35.1 | 32.4 | 35.5 | 31.5 | 35.5 |
| 5.5/0 | 33.2 | 30.8 | - | - | - |
| 6/0 | 32.2 | 29.2 | 31.5 | 30 | 31.5 |
| 6.5/0 | 30.7 | 28.4 | - | - | - |
| 7/0 | 30.2 | 27.5 | 28 | 26.5 | 28 |
| 7.5/0 | 28.8 | 26.7 | 0 | - | - |
| 8/0 | 28.5 | 25.9 | 25 | 23.6 | 25 |
| 9/0 | 26.8 | 24.3 | 23.5 | 22.4 | 23.6 |
| 10/0 | 25.0 | 22.7 | 22.4 | 20 | 22.4 |
| 11/0 | 23.2 | 21.1 | 20 | 19 | 20 |
| 12/0 | 21.6 | 194.0 | 18 | 18 | 18 |
| 13/0 | 20.0 | 17.8 | 17 | 16 | 17 |
| 14/0 | 17.8 | 16.2 | 16 | 15 | 16 |
| 15/0 | 16.9 | 14.9 | 15 | 14 | 15 |
| 16/0 | 15.7 | 13.9 | 14 | 13.2 | 14 |
| 17/0 | 14.8 | 13.0 | 13.2 | 11.8 | 13.2 |
| 18/0 | 13.9 | 12.3 | 12.5 | 11.2 | 12.5 |
| 19/0 | 13.2 | 11.7 | 11.2 | 10 | 11.2 |
| 20/0 | 12.4 | 11.0 | 10 | 9 | 10 |
| 21/0 | 11.8 | 10.4 | - | 8.5 | - |
| 22/0 | 11.0 | 9.7 | 9 | 8 | 9 |
| 23/0 | 10.4 | 9.1 | - | 7.5 | - |
| 24/0 | 9.6 | 8.4 | 8 | 7.1 | 8 |

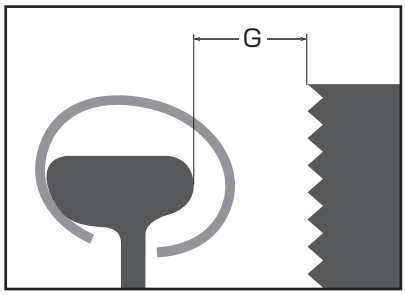
* Weight = mg/1,000pcs

# Traveller Clearer Gauges

| Flange Size | No.1 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Traveller Type | MS/hf | MSR/hf | ESY/hf | ESZ/hf | ESR/hf | OSY/hf | OSY | YS-2/hf | YS-2 | OS | ZS/hf | ZSB/hf | ZSC/hf |
| 11~20 | 2.6 | - | - | - | - | - | - | - | - | 2.9 | 2.8 | - | - |
| 6~10 | 2.6 | - | - | - | - | - | - | - | - | 2.5 | 2.6 | - | 2.6 |
| 1~5 | 2.3 | 2.1 | 2.1 | - | - | 1.9 | 2.0 | 2.1 | 2.4 | 2.4 | 2.2 | 2.1 | 2.2 |
| 1/0~5/0 | 1.9 | 1.9 | 1.8 | 1.8 | 1.6 | 1.4 | 1.6 | 1.8 | 1.8 | 2.1 | 1.6 | 1.6 | 1.7 |
| 6/0~10/0 | 1.7 | 1.8 | 1.7 | 1.7 | 1.5 | 1.3 | 1.5 | 1.7 | 1.7 | 1.9 | 1.5 | 1.5 | 1.5 |
| 11/0~15/0 | 1.4 | 1.6 | 1.7 | 1.7 | 1.4 | 1.2 | 1.4 | 1.5 | 1.5 | 1.7 | 1.4 | 1.3 | 1.4 |
| 16/0~20/0 | 1.4 | - | 1.7 | 1.7 | 1.3 | 1.2 | 1.4 | 1.3 | 1.3 | 1.5 | - | - | - |
| 21/0~25/0 | - | - | - | 1.7 | 1.3 | - | 1.3 | - | - | 1.3 | - | - | - |
| 26/0~30/0 | - | - | - | 1.7 | - | - | - | - | - | 1.1 | - | - | - |

| Flange Size | No.1 | | | | No.1/2 | | | No.2 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Traveller Type | OY | OYH | OY/hf-N | PK/hf | ESS/hf | OSS/hf | OSS | BZ/hf | PK/hf | Z/hf | O | OH | YZ/hf |
| 21~30 | - | - | - | - | - | - | - | 3.8 | - | - | 4.1 | - | 3.5 |
| 16~20 | - | - | - | - | - | - | - | 3.5 | - | - | 3.8 | 5.0 | 3.4 |
| 11~15 | - | - | - | 3.8 | - | - | - | 3.2 | 2.5 | - | 3.3 | 4.7 | 3.2 |
| 6~10 | 3.0 | 3.7 | 3.2 | 3.4 | - | - | - | 3.0 | 2.3 | - | 3.0 | 4.0 | 2.8 |
| 1~5 | 2.8 | 3.3 | 2.8 | 2.8 | - | - | 2.2 | 2.7 | 2.1 | 1.8 | 2.5 | 3.2 | 2.3 |
| 1/0~5/0 | 2.7 | 3.0 | 2.6 | 2.7 | - | 1.9 | 2.0 | - | 2.0 | 1.6 | 2.0 | 2.5 | - |
| 6/0~10/0 | 2.6 | - | 2.5 | 2.6 | - | 1.7 | 1.8 | - | 1.9 | | 1.8 | 2.2 | - |
| 11/0~15/0 | 2.5 | - | - | - | 1.6 | 1.5 | 1.7 | - | - | - | - | - | - |
| 16/0~20/0 | - | - | - | - | 1.6 | 1.4 | 1.6 | - | - | - | - | - | - |
| 21/0~25/0 | - | - | - | - | 1.6 | 1.3 | 1.6 | - | - | - | - | - | - |
| 26/0~30/0 | - | - | - | - | 1.6 | 1.3 | 1.5 | - | - | - | - | - | - |

■ Sticking of fly waste is the more as in spinning of coarse yarn and short fibre, and causes the yarn brekage to increase.Adjustment shall be performed carefully with the gauge.




G=Gauge (mm)

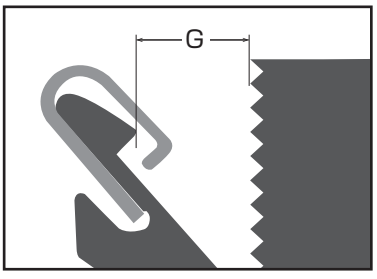
# Riora Traveller

## Manufacturing Range

| kanai No. | ISO No. | TR-S/hf | TR-M/hf | TR-M/R | TR-L/hf | TR-L/R | TR-LN/HF | Equivalent Number of MS/hf | Equivalent Number of SBA |
|---|---|---|---|---|---|---|---|---|---|
| 10 | 10 | ○ | | | | | | 22/0 | |
| 12 | 12.5 | ○ | | | | | | 19/0 | |
| 14 | 14 | ○ | | | | | | 16/0 | |
| 16 | 16 | ○ | | ○ | | | | 14/0 | |
| 18 | 18 | ○ | ○ | ○ | | | | 13/0 | 36 |
| 20 | 20 | ○ | ○ | ○ | | | | 12/0 | 35.5 |
| 22 | 22.4 | ○ | ○ | ○ | | | | 10/0 | 35 |
| 25 | 25 | ○ | ○ | ○ | | | | 8.5/0 | 34 |
| 28 | 28 | ○ | ○ | ○ | | | | 7/0 | 33.5 |
| 30 | 30 | ○ | ○ | ○ | | | | 6/0 | |
| 32 | 31.5 | ○ | ○ | ○ | | | | 5/0 | 33 |
| 34 | 34 | ○ | ○ | ○ | | | | 4.5/0 | 32 |
| 36 | 35.5 | ○ | ○ | ○ | | | | 4/0 | 31.5 |
| 38 | 38 | ○ | ○ | ○ | | | | | |
| 40 | 40 | ○ | ○ | ○ | | ○ | | 3/0 | 30.5 |
| 45 | 45 | ○ | ○ | ○ | | ○ | | 2/0 | 30 |
| 50 | 50 | | ○ | ○ | | ○ | | 1/0 | 29 |
| 56 | 56 | | ○ | ○ | | ○ | | 0.5 | 28 |
| 60 | 60 | | ○ | ○ | | ○ | | | |
| 63 | 63 | | ○ | ○ | | ○ | ○ | 1.5 | 27 |
| 67 | 67 | | ○ | ○ | | ○ | ○ | | |
| 71 | 71 | | ○ | ○ | | ○ | ○ | 2 | 26 |
| 75.5 | 75.5 | | ○ | ○ | | ○ | ○ | | |
| 80 | 80 | | ○ | ○ | ○ | ○ | ○ | 3.5 | 25.5 |
| 85 | 85 | | ○ | ○ | ○ | ○ | ○ | | |
| 90 | 90 | | ○ | ○ | ○ | ○ | ○ | 5 | 24.5 |
| 100 | 100 | | ○ | ○ | ○ | ○ | ○ | 6 | 24 |
| 112 | 112 | | ○ | ○ | | ○ | ○ | 6.5 | 23 |
| 125 | 125 | | ○ | | | ○ | ○ | 8 | 22.5 |
| 133 | 133 | | ○ | | | | ○ | | |
| 140 | 140 | | ○ | | | | ○ | 9 | 21.5 |
| 160 | 160 | | ○ | | | | ○ | 10 | 20.5 |
| 180 | 180 | | ○ | | | | ○ | 11 | 20 |
| 200 | 200 | | | | | | ○ | 12 | 19 |
| 224 | 224 | | | | | | ○ | 13 | 18.5 |
| 250 | 250 | | | | | | ○ | 14 | 18 |
| 280 | 280 | | | | | | ○ | 16 | 17 |
| 315 | 315 | | | | | | ○ | 18 | 16 |
| 355 | 355 | | | | | | ○ | 21 | 15 |

## Clearer Gauges

| Flange Type | RR-S | RR-M | | RR-L | |
|---|---|---|---|---|---|
| Traveller Type | TR-S/hf | TR-M/hf | TR-M/R | TR-L/hf | TR-L/R |
| 10~22 | 1.5 | 1.6 | 1.8 | | |
| 25~50 | 1.6 | 1.8 | 1.8 | | 2.3 |
| 56~133 | | 2.0 | 2.0 | 2.5 | 2.5 |
| 140~180 | | 2.2 | | 2.8 | 2.8 |
| 200~280 | | | | 3.0 | 3.0 |
| 315~355 | | | | 3.5 | 3.5 |




G=Gauge (mm)

# NANOSPIN Take NANOSPIN, Get High Durability.

## Characteristics

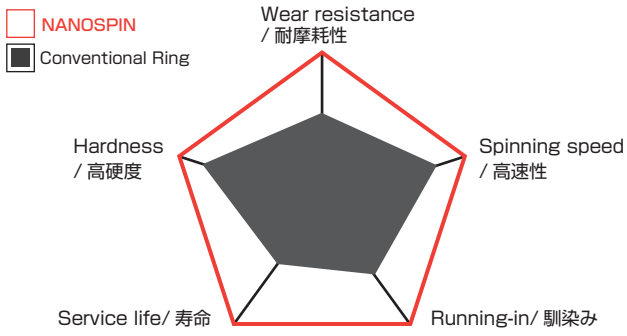
- "NANOSPIN" is the newly developed Spinning Ring applied with special alloy coating, and it has excellent heat & rust resistance, and shows higher hardness and severe wear resistance.
- From the initial stage, this ring shows steady performance for a long time with high speed spinning condition.

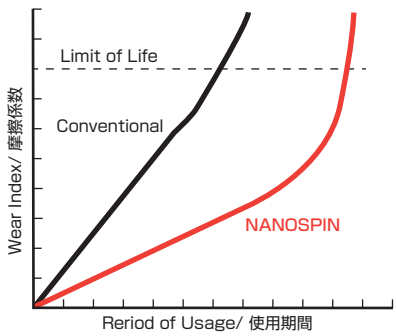
- “NANOSPIN" は、耐熱・耐酸化性に優れ、かつ高硬度にもかかわらず低摩擦係数を有した、特殊合金を均一にコーティングしたリングです。
- 過酷な条件下でも使用初期から長時間に渡り安定した機能を発揮し且つ、従来品と比較し、２倍以上の寿命が期待できます。

## Type&Selection

| Flange Type | Flange Size | Application Process | Application of Yarn Count (Ne) |
|---|---|---|---|
| | | | 0 20 40 60 80 100 |
| KM | No.1/2 (2.5mm) | Fine Count | |
| KS2 | No.1 (3.2mm) | Medium & Coarse Count | |
| KW | No.2 (4.0mm) | Coarse Count | |

## Performance



# RIORA RING Take RIORA, Get High Productivity.

## Special Flange Shape

### ■ ANGLE OF INCLINATION & CURVATURE / 傾斜フランジ

- By applying the best angle of inclination and curvature to the ring flange, better flexibility and stability of traveller can be obtained.
- 特殊な傾斜フランジの採用により、トラベラ走行のより良い自在性と安定をもたらします。

## Features

### ■ Excellent high speed and starting-up / 優れた高速性となじみ性

- Approx. 20% increase of production can be attained compared with normal T-shape flange. Espcially for the spinning speed of over 20,000 rpm and synthetics (Acrylic, Polyester), its perfomance is evaluated.
- Ｔ型フランジリングと比較し、最大 20%の増産が可能です。
  特に 20,000rpm 以上や、合繊紡（アクリル、ポリエステル）において高い評価が得られています。

### ■ Improvement of yarn quality / 糸品質の向上

- Max. 50% (F-INDEX, Shikibo), 10%(USTER) of decrease of yarn fluff have been confirmed.
- 最大 50%（F-INDEX,Shikibo), 10%(USTER) の糸毛羽（特に長い毛羽）の減少が確認されています。

### ■ Extension of life for Ring and Traveller / トラベラ・リングの寿命延長

- Approx.1.5 times longer life can be expected.
- 1.5 倍以上の寿命延長が期待できます。コアヤーン等の過酷な条件においても高い評価が得られています。

## Type&Selection

| Flange Type | Flange Shape | Traveller Type | Application Process | Application of Yarn Count (Ne) 0 20 40 60 80 100 |
|---|---|---|---|---|
| RR-S |  | TR-S/hf | Fine Count | |
| RR-M |  | TR-M/R<br>TR-M/hf | Medium & Coarse Count | |
| RR-L |  | TR-L/R<br>TR-L/hf | Coarse Count | |