Thai Toray Synthetics Co., Ltd. (TTS)
Mar'2022

# Technical data sheet of CPP type ZK207 Cast Polypropylene Film

| Item | Unit | Typical value | | | | | Test Method |
|---|---|---|---|---|---|---|---|
| Thickness | Micron | 50 | 60 | 70 | 80 | 100 | - |
| Tensile Strength (MD/TD) | $Kg/mm^2$ | 6.0<br>4.1 | 5.8<br>4.2 | 5.5<br>4.2 | 5.3<br>4.2 | 5.1<br>4.2 | JIS K7127 |
| Elongation (MD/TD) | % | 830<br>965 | 865<br>1000 | 910<br>1030 | 940<br>1060 | 1025<br>1100 | JIS K7127 |
| Young's modulus (MD/TD) | $Kg/mm^2$ | 61<br>53 | 58<br>51 | 54<br>48 | 51<br>46 | 47<br>42 | JIS K7113 |
| Haze | % | 49.7 | 50.6 | 51.7 | 52.6 | 53.3 | JIS K7105 |
| Coefficient of Friction NT/NT (Sta/Dyn) | - | 1.09<br>0.90 | 1.06<br>0.85 | 1.03<br>0.82 | 0.99<br>0.78 | 0.94<br>0.76 | ASTM D1894 |
| Wetting Tension | Dyne/cm | 40 | 40 | 40 | 40 | 40 | JIS K6768 |
| Heat seal strength (Before retort) | Kg/15mm | 7.4 | 7.5 | 7.6 | 7.7 | 7.9 | TTS Method |
| Corona Treatment | - | Inside | Inside | Inside | Inside | Inside | - |

REMARK: MD = Machine Direction, TD = Transverse Direction

Heat Seal Strength condition: 200 °C, 2 $kgf/cm^2$, and 1.0 sec., Substrate: ONY/CPP laminate.

The above values are the reference but not for guarantee. We accept no responsibility for results obtained by the applicant of this information or suitability of our products, either alone or in combination with other products. Users are advised to make their own tests to determine the safety and suitability of each such product or product combination for their own purposes.

Thai Toray Synthetics Co., Ltd. (TTS)
Mar'2022

# Technical data sheet of CPP type ZK99S Cast Polypropylene Film

| Item | Unit | Typical value | | | | Test Method |
|---|---|---|---|---|---|---|
| Thickness | Micron | 60 | 70 | 80 | 100 | - |
| Tensile Strength (MD/TD) | $Kg/mm^2$ | 5.0<br>3.9 | 4.8<br>3.9 | 4.7<br>4.0 | 4.6<br>4.0 | JIS K7127 |
| Elongation (MD/TD) | % | 880<br>930 | 910<br>945 | 930<br>985 | 1015<br>1030 | JIS K7127 |
| Young's modulus (MD/TD) | $Kg/mm^2$ | 48/45 | 46/44 | 48/45 | 44/42 | JIS K7113 |
| Haze | % | 55.0 | 56.4 | 58.1 | 59.3 | JIS K7105 |
| Coefficient of Friction NT/NT (Sta/Dyn) | - | 1.26<br>1.09 | 1.23<br>1.04 | 1.10<br>0.90 | 1.06<br>0.89 | ASTM D1894 |
| Wetting Tension | Dyne/cm | 40 | 40 | 40 | 40 | JIS K6768 |
| Heat seal strength (Before retort) | Kg/15mm | 7.7 | 7.9 | 8.1 | 8.3 | TTS Method |
| Corona Treatment | - | Inside | Inside | Inside | Inside | - |

REMARK: MD = Machine Direction, TD = Transverse Direction

Heat Seal Strength condition: 200 °C, 2 $kgf/cm^2$, and 1.0 sec., Substrate: ONY/CPP laminate.

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Thai Toray Synthetics Co., Ltd. (TTS)
June'2022

# Technical data sheet of CPP type ZK500 Cast Polypropylene Film

| Item | Unit | Typical value | | | Test Method |
|---|---|---|---|---|---|
| Thickness | Micron | 60 | 70 | 80 | JIS Z1702 |
| Tensile Strength (MD/TD) | Kg/mm² | 5.6<br>4.7 | 5.7<br>4.1 | 5.4<br>4.1 | JIS K7127 |
| Elongation (MD/TD) | % | 880<br>915 | 890<br>965 | 935<br>980 | JIS K7127 |
| Young's modulus (MD/TD) | Kg/mm² | 43<br>39 | 43<br>36 | 43<br>36 | JIS K7113 |
| Haze | % | 63.3 | 64.3 | 64.0 | JIS K7105 |
| Coefficient of Friction NT/NT (Sta/Dyn) | - | 1.30<br>1.00 | 1.20<br>0.97 | 1.23<br>0.97 | ASTM D1894 |
| Wetting Tension | Dyne/cm | 40 | 40 | 40 | JIS K6768 |
| Heat seal strength (Before retort) | Kg/15mm | 7.4 | 7.2 | 7.0 | TTS Method |
| Corona Treatment | - | Inside | Inside | Inside | - |

REMARK: MD = Machine Direction, TD = Transverse Direction

Heat Seal Strength condition: 200 °C, 2 kgf/cm², and 1.0 sec., Substrate: ONY/CPP laminate.

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Thai Toray Synthetics Co., Ltd. (TTS)
May'2022

# Technical data sheet of CPP ZK9951 Cast Polypropylene Film

| Item | Unit | Typical value | | | Test Method |
|---|---|---|---|---|---|
| Thickness | Micron | 40 | 50 | 60 | - |
| Tensile Strength (MD/TD) | $Kg/mm^2$ | 6.5<br>4.3 | 5.9<br>4.2 | 5.8<br>4.2 | JIS K7127 |
| Elongation (MD/TD) | % | 660<br>900 | 700<br>915 | 770<br>930 | JIS K7127 |
| Young's modulus (MD/TD) | $Kg/mm^2$ | 53<br>50 | 50<br>47 | 47<br>45 | JIS K7113 |
| Haze | % | 2.9 | 3.1 | 3.7 | JIS K7105 |
| Coefficient of Friction NT/NT (Sta/Dyn) | - | 0.24<br>0.23 | 0.18<br>0.17 | 0.16<br>0.14 | ASTM D1894 |
| Wetting Tension | Dyne/cm | 36 | 36 | 36 | JIS K6768 |
| Heat seal strength (Before retort) | Kg/15mm | 7.7 | 7.8 | 7.8 | TTS Method |
| Corona Treatment | - | Inside | Inside | Inside | - |

REMARK: MD = Machine Direction, TD = Transverse Direction

Heat Seal Strength condition: 160 °C, $2kgf/cm^2$, and 1.0 sec., Substrate: ONY/CPP laminate.

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