| Products                  | Tg [°C] | Mw     | Application   |
|---------------------------|---------|--------|---|
| MARNEX <sup>™</sup> AH353 | ~32     | 16,000 | MARNEX <sup>™</sup> AH353 is a hard solid polyester resin with excellent heat seal adhesion and without any residual stickiness for flexible packaging, and heat seal adhesives particularly for aluminum foils and metal substrates.       |
| MARNEX <sup>™</sup> AH441 | ~40     | 12,000 | MARNEX <sup>™</sup> AH441 is a hard solid polyester resin with excellent water resistance for heat seal adhesives particularly applied to metal substrates.   |
| MARNEX <sup>™</sup> AH448 | ~40     | 15,000 | MARNEX <sup>™</sup> AH448 is a hard solid polyester resin with excellent heat seal properties and adhesion to PET for screen printing and gravure inks as well as heat seal adhesives applied to PET and other plastic substrates.          |
| MARNEX™ AH458             | ~40     | 20,000 | MARNEX $^{\text{TM}}$ AH458 is a hard solid polyester resin with high reactivity and flexibility for screen printing and gravure inks as well as heat seal adhesives applied to PET and other plastic substrates.                           |
| MARNEX <sup>™</sup> AH469 | ~48     | 23,000 | MARNEX <sup>™</sup> AH469 is a hard, high molecular weight solid polyester resin with outstanding toughness for screen printing inks, as well as, heat seal systems applied to metal substrates, as well as, PET and PVC films.             |
| MARNEX™ AH540             | ~57     | 15,000 | MARNEX <sup>™</sup> AH540 is a hard solid polyester resin for heat seal adhesives with highest chemical resistance and excellent adhesion to metal, glass, PET films and other plastic substrates.  |
| MARNEX™ AH550             | ~53     | 21,000 | MARNEX $^{\text{TM}}$ AH550 is a hard solid polyester resin for heat seal adhesives and flexible packaging with excellent adhesion to aluminum, as well as, PET and PVC films.  |
| MARNEX™ AH620             | ~62     | 5,000  | MARNEX <sup>™</sup> AH620 is a hard, very low molecular weight solid polyester resin for gravure inks and heat seal adhesives.  |
| MARNEX™ AH645             | ~67     | 15,000 | MARNEX <sup>™</sup> AH645 is a hard solid polyester resin with high heat resistance, as well as, low solution and melt viscosity for flexible packaging and heat seal adhesives particularly applied to metal substrates or aluminum foils. |
| MARNEX™ AH650             | ~64     | 20,000 | MARNEX <sup>™</sup> AH650 is a hard solid polyester resin with high heat resistance for screen printing inks and heat seal adhesives particularly applied to metal substrates or aluminum foils.  |

| Products                   | Tg [°C] | Mw     | Application   |
|----------------------------|---------|--------|---|
| MARNEX <sup>™</sup> AH651  | ~68     | 17,000 | MARNEX <sup>™</sup> AH651 is a multi-purpose hard solid polyester resin for screen printing inks, gravure inks, and heat seal adhesives applied to a broad range of metal and non-metal substrates. |
| MARNEX <sup>™</sup> AH653  | ~65     | 20,000 | MARNEX <sup>™</sup> AH653 is a hard solid polyester resin with comparably high acid value and resulting distinct adhesion to metal substrates.  |
| MARNEX <sup>™</sup> AH660  | ~68     | 21,000 | MARNEX <sup>™</sup> AH660 is a hard solid polyester resin for screen printing inks particularly printed onto PET films.   |
| MARNEX <sup>™</sup> AH760  | ~72     | 22,000 | MARNEX <sup>™</sup> AH760 is a hard solid polyester resin with high corrosion protection and excellent metal adhesion for heat seal adhesives, as well as, screen printing inks.                    |
| MARNEX™ AL030              | ~4      | 9,000  | MARNEX <sup>™</sup> AL030 is a soft solid polyester resin with comparably high OH-functionality to formulate polyurethane systems with exceptional alkali resistance.                               |
| MARNEX <sup>™</sup> AL046  | ~4      | 10,000 | MARNEX <sup>™</sup> AL046 is a soft solid polyester resin with high aging resistance to formulate polyurethane systems and solar cell back sheet systems applied particularly over PVDF films.      |
| MARNEX <sup>™</sup> AL051  | ~9      | 20,000 | $MARNEX^TM$ $AL051$ is a soft solid polyester resin with excellent adhesion to PET and aluminum to formulate flexible food packaging systems.   |
| MARNEX <sup>™</sup> AL072  | ~8      | 26,000 | MARNEX <sup>™</sup> AL072 is a soft solid polyester resin with good adhesion to multiple substrates to formulate flexible packaging and flexible cable systems.                                     |
| MARNEX <sup>™</sup> AL088M | ~22     | 36,000 | MARNEX <sup>™</sup> AL088M is a soft, comparably high molecular weight solid polyester resin for a broad range of formulations that require highest toughness possible.                             |
| MARNEX <sup>™</sup> AL090M | ~8      | 42,000 | MARNEX <sup>™</sup> AL090M is a soft, comparably high molecular weight solid polyester resin for a broad range of formulations that require highest toughness possible.                             |
| MARNEX <sup>™</sup> AL098M | ~10     | 40,000 | MARNEX <sup>™</sup> AL098M is a soft, comparably high molecular weight solid polyester resin with outstanding heat resistance, flexibility and elongation for flexible packaging systems.           |
| MARNEX <sup>™</sup> AL120  | ~15     | 7,000  | MARNEX <sup>™</sup> AL120 is a soft solid polyester resin with excellent solubility in a broad range of organic solvents due to its comparably low molecular weight.                                |

| Products                  | Tg [°C] | Mw     | Application   |
|---------------------------|---------|--------|---|
| MARNEX™ AL147             | ~7      | 15,000 | MARNEX <sup>™</sup> AL147 is a soft solid polyester resin to formulate polyurethane systems and solar cell back sheet systems applied particularly over PVDF films.     |
| MARNEX <sup>™</sup> AL148 | ~19     | 15,000 | MARNEX $^{\text{TM}}$ AL148 is a soft solid polyester resin with comparable high acid value and outstanding heat resistance for flexible cable systems.                 |
| MARNEX <sup>™</sup> AL150 | ~14     | 21,000 | MARNEX $^{\text{TM}}$ AL150 is a soft solid polyester resin for screen printing inks and flexible packaging with excellent adhesion on PET and PVC films.               |
| MARNEX <sup>™</sup> AL160 | ~12     | 20,000 | MARNEX $^{\text{TM}}$ AL160 is a soft solid polyester resin with particular compatibility with vinyl ter-polymer resins (VAGH) to formulate flexible packaging systems. |
| MARNEX <sup>™</sup> AL171 | ~18     | 28,000 | MARNEX $^{\text{TM}}$ AL171 is a soft solid polyester resin for screen printing inks and flexible packaging with excellent adhesion on PET and PVC films.               |
| MARNEX™ AL177             | ~12     | 27,000 | MARNEX $^{\text{TM}}$ AL177 is a soft solid polyester resin with particular compatibility with vinyl ter-polymer resins (VAGH) to formulate flexible packaging systems. |
| MARNEX <sup>™</sup> AL260 | ~20     | 20,000 | MARNEX <sup>™</sup> AL260 is a soft solid polyester resin to formulate flexible packaging systems with excellent adhesion to a broad range of different substrates.     |

<sup>&</sup>lt;sup>1</sup> Typical values, not for specification purposes