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Advanced Materials

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# Switchgears

Powered by Araldite® casting systems

General requirements for casting systems for switchgear parts are:

- medium to high glass transition temperature (Tg)
- Tg adjusted to service temperature (e.g. service temperature 105 °C requires Tg>115 °C)
- high resistance to mechanical creeping because of gas pressure in GIS parts

For outdoor applications especially good and proven weathering resistance is required. Araldite® cycloaliphatic outdoor systems are backed by 40 years of service experiences. Araldite® HCEP systems reduce leakage currents and therefore further improve reliability and extend life expectancy of insulators.

In order to increase productivity, Araldite® NPC systems have been developed, which do not require post cure anymore.

> Araldite® HCEP outdoor systems for the embedded pole OP1. By courtesy of ABB Germany

> Araldite® HCEP systems for outdoor Load Break Switch. By courtesy of Entec Korea

## Applications

- Indoor Systems for Medium and High Voltage
- Outdoor Systems for Medium Voltage



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| Product Name | Mix Ratio | Tg | $K_{IC}$ | Manufacturing Process | Main Features | Type |
|---|---|---|---|---|---|---|
| Unit | pbw | °C | $MPa\sqrt{m}$ | | | |
| **Araldite® CW 229 / Aradur® HW 229** | 100 / 100 | 115 | 2.9 | Automatic pressure gelation / Vacuum casting | Wollastonite prefilled system, low thermal expansion coefficient, high crack resistance, moderate reactivity, best suited for vacuum casting, UL 746 B recognition for 200°C service temperature. | Indoor system for MV |
| **Araldite® CY 228 / Aradur® HY 918 / Flexibilizer DY 040 / Accelerator DY 062 / Filler Silica** | 100 / 85 / 0.8 / 345 | 115 | 2 | Automatic pressure gelation / Vacuum casting | High mechanical and electrical properties, good thermal shock resistance, high filler content possible. | Indoor system for MV |
| **Araldite® B 41 / Aradur® HT 903 / Silica Flour** | 100 / 40 / 210 | 105 | 2.3 | Vacuum casting | Toughened system with high mechanical properties and excellent thermal shock resistance. | Indoor system for MV |
| **Araldite® CW 5895 / Aradur® HW 5896 /** | 100 / 80 / 270 | 130 | 2.2 | Automatic pressure gelation | Liquid toughened system especially good for High voltage GIS spacer application. | Indoor system for HV |
| **Araldite® CY 5995 / Aradur® HY 925 / Filler $Al_2O_3$** | 100 / 87 / 400 | 120 | 2.3 | Automatic pressure gelation / Vacuum casting | No post cure grade of Araldite® CW 229 / Aradur® HW 229, UL 746 B recognition for 200°C service temperature. | Indoor system for HV |
| **Araldite® CW 229 NPC / Aradur® HW 229 NPC** | 100 / 100 | 115 | 2.9 | Automatic pressure gelation | No post cure grade of Araldite® CW 229 / Aradur® HW 229, UL 746 B recognition for 200°C service temperature. | Indoor NPC system |
| **Resin XB 5992 / Hardener XB 5993 / Filler Silica** | 100 / 90 / 350 | 107 | 2.1 | Automatic pressure gelation / Vacuum casting | No post cure after demolding, good thermal cycling resistance, saving processing cost. | Indoor NPC system |
| **Araldite® CW 5957 / Aradur® HW 5958** | 100 / 100 | 110 | 2.5 | Automatic pressure gelation / Vacuum casting | Hydrophobic pre-filled cycloaliphatic system, improved crack resistance, hydrophobicity transfer and recovery, extended insulator lifetime. | Outdoor systems for MV |
| **Araldite® CW 5908 / Aradur® HW 5909** | 100 / 100 | 120 | 2.3 | Automatic pressure gelation / Vacuum casting | High thermal shock resistance combined with high Tg for outdoor MV and heavy power electrical industry. | Outdoor systems for MV |
| **Araldite® CY 5622 / Aradur® HY 1235 / Accelerator DY 062 / Filler Silica-EST** | 100 / 82 / 0.45 / 355 | 110 | 2.5 | Automatic pressure gelation / Vacuum casting | Hydrophobic cycloaliphatic system with liquid hardener, excellent thermal cycle resistance, hydrophobicity transfer and recovery, extended insulator lifetime, utility approvals. | Outdoor systems for MV |
| **Araldite® CY 184 / Aradur® HY 1235 / Accelerator DY 062 / Filler Silica-EST** | 100 / 90 / 0.6 / 370 | 110 | 2.5 | Automatic pressure gelation / Vacuum casting | Long experience, liquid hardener, also used in severe indoor conditions (pollution humidity), EDF approved (HN-26-E-20). | Outdoor systems for MV |

Ref. Nr. AdMat_SG_12/09_EN

**More detailed information about these products can be found on our website:** www.huntsman.com/power
**For any other information, please send an e-mail to:** power@huntsman.com