

## Advanced Materials

<b>Araldite<sup>®</sup> CW 5725-3</b>	<b>100</b>	<b>pbw</b>
<b>Aradur<sup>®</sup> HY 5726</b>	<b>28</b>	<b>pbw</b>

Optimally filled casting resin system with very good impregnation capability for processing and curing at higher temperatures.

### Application

Car ignition coils.

### Processing Methods

Casting / vacuum casting.

### Key Properties

Very good thermal shock resistance.  
Very good thermal endurance.  
Low viscosity.  
Good sedimentation properties.  
Very good impregnation.

## Product Data (Guideline Values)

### **Araldite® CW 5725-3**

Modified, solvent-free epoxy resin containing an inorganic filler

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Viscosity at 60 °C	ISO 3219	mPa*s	4000 – 7500 *
Specific gravity at 25 °C	ISO 2811	g/cm <sup>3</sup>	1.91
Appearance	Visual		Black, viscous liquid

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### **Aradur® HY 5726**

Liquid, accelerated anhydride hardener

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Viscosity at 25 °C	ISO 12058	mPa*s	50 – 100 *
Specific gravity at 20 °C	ISO 2811	g/cm <sup>3</sup>	1.19
Appearance	Visual		Yellow to red-brown liquid *

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\* Specified range

## Processing Data (Guideline Values)

### Mix Ratio

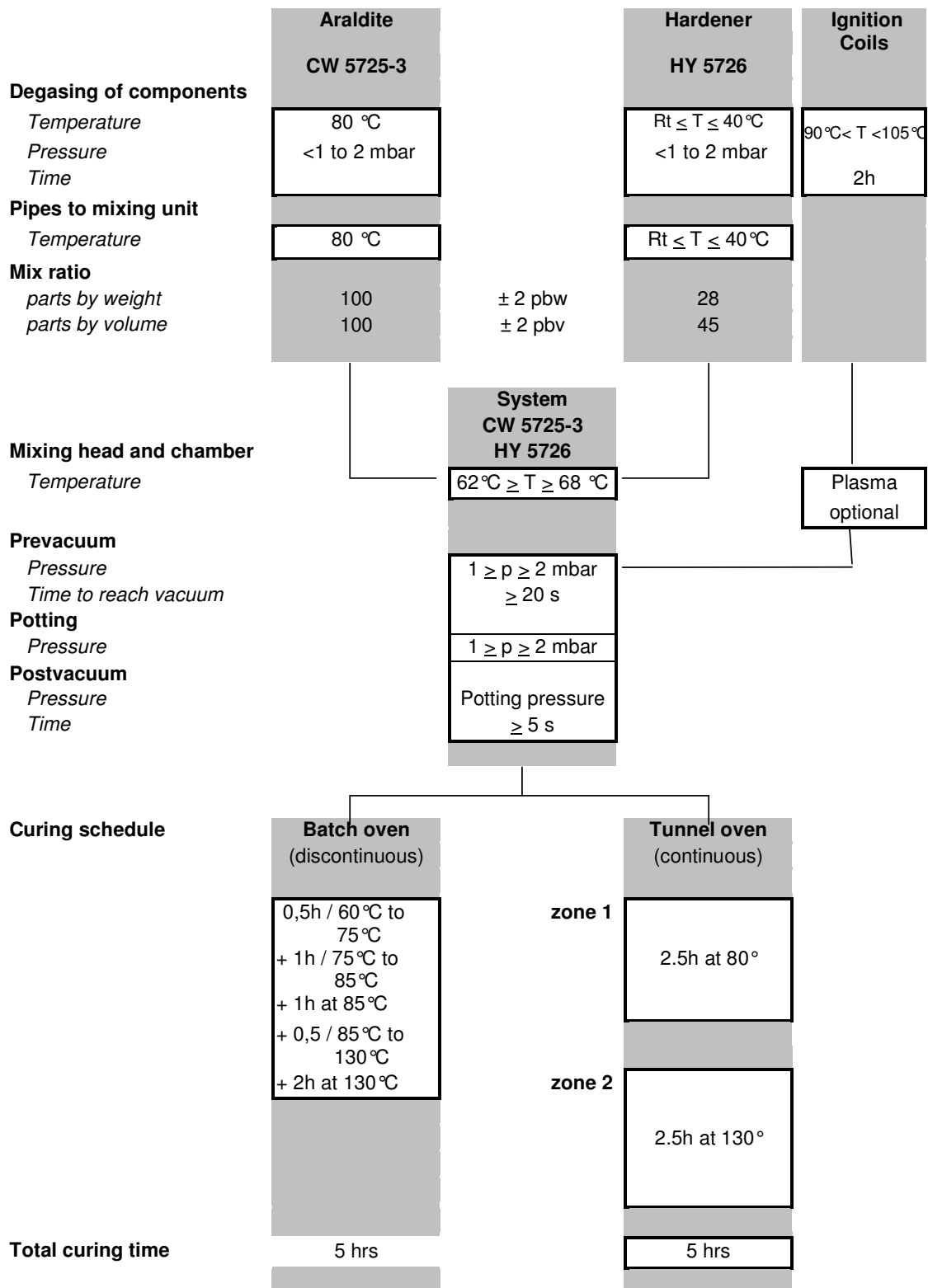
		Parts by weight	Parts by volume
CW 5725-3	Resin	100	100
HY 5726	Hardener	28	45

### Gel Time, Viscosity and Curing

Mix viscosity at 60°C	CW 5725-3 / HY 5726	Rheostress	mPa*s	470
Mix viscosity at 80°C		Rheostress	mPa*s	270
Gel time at 70°C		Gelnorm	min	310
Gel time at 80°C		Gelnorm	min	160
Gel time at 90°C		Gelnorm	min	80
Gel time at 120°C		ISO 9396	min	11 – 14 *
Pot life at 60°C (Time to double initial viscosity)		Rheostress	min	190
Pot life at 70°C (Time to double initial viscosity)		Rheostress	min	110
Pot life at 80°C (Time to double initial viscosity)		Rheostress	min	50
Pot life at 60°C (Time to reach 15000 mPa*s)		Rheostress	min	480
Pot life at 80°C (Time to reach 15000 mPa*s)		Rheostress	min	130
Standard curing cycle		2.5 hours at 90°C + 2.5 hours at 130°C		

\* Specified range

# Processing and Storage (Guideline Values)



After curing, the components should be cooled down to min. 80°C along 1h in an unheated cabinet to exclude draughts and extremes of temperature.

## Processing and Storage (Guideline Values)

### Preparation

CW 5725-3 contains fillers, which tend to settle over time. It is therefore recommended to carefully homogenize the complete contents of the container before use.

In the storage vessels of the production equipment, the pre-filled products should be stirred up from time to time to avoid sedimentation and irregular metering.

### Mixing

To facilitate stirring and removal, highly-filled components are heated to 60-80°C in the original container (e.g. overnight in an oven).

To prepare the casting mix the resin component should be homogenized in holding tank A at 70 - 80°C under a vacuum of 1-5 mbar, the hardener component in holding tank B at 30 - 40°C and a vacuum of 1 - 5 mbar.

A metering unit should be used to feed the resin and hardener components to an impeller mixer.

### Storage Conditions

Store the components in a dry place in tightly sealed original containers. Under these conditions, the shelf life will correspond to the expiry date stated on the label. Partly emptied containers should be tightly closed immediately after use. For information on waste disposal and hazardous products of decomposition in the event of a fire, refer to the Material Safety Data Sheets (MSDS) for these particular products.

## Mechanical and Physical Properties (Guideline Values)

Determined on standard test specimen at 23°C. Cured for 2.5h/90°C + 2.5h/130°C.

Color of casting	Visual		Black
Specific gravity	DIN 55990	g/cm <sup>3</sup>	1.73
Glass transition temperature	ISO 11357	°C	135 – 150 *
Thermal class	IEC 60085		H
Flexural modulus	ISO 178	MPa	7000
Flexural strength	ISO 178	MPa	85 – 150 *
Flexural elongation	ISO 178	MPa	1.35 – 2.50 *
Double torsion test	PM 216-0/89	MPa m <sup>-1/2</sup>	1.75 – 2.50 *
Critical stress intensity factor K <sub>IC</sub>			
Double torsion test	PM 216-0/89	J/m <sup>2</sup>	375 – 500 *
Specific energy at break G <sub>IC</sub>			
Thermal linear coefficient	ISO 11359-2	ppm/K	35
Thermal conductivity	ISO 8894-1	W/mK	0.65
Hardness	DIN 53505	Shore D	90
Water absorption	ISO 62/80		
10 days at 23°C		% by wt.	0.08
30 min at 100°C			0.05

\*Specified range

## Electrical Properties (Guideline Values)

Determined on standard test specimen at 23°C. Cured for 2.5h/90°C + 2.5h/130°C.

Dielectric strength (1 mm specimen)	IEC 60243-1	kV/mm	38
Dielectric loss factor (tan δ, 50Hz, 25°C)	IEC 60250	%	1.0
Dielectric constant (ε <sub>r</sub> , 50Hz, 25°C)	IEC 60250		4.3
Volume resistivity (ρ, 25°C)	IEC 60093	Ω cm	10 <sup>15</sup>
Tracking resistance CTI	IEC 60112	grade	> 600
Electrolytic corrosion	IEC 60426	grade	A-1

## Legal Notice

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