



Technical Data Sheet

OVEN BAKING BINDERS

DESCRIPTION

HA International has the most complete line of oven baking binders and dielectric curing binders for application in non-ferrous, iron and steel castings. The product line includes conventional core oils, reduced smoke core oils, synthetic urea-formaldehyde (U/F) resins and phenol-formaldehyde (P/F) resins. The products are engineered to perform at the highest standards in the industry.

PROPERTIES

Product	Characteristics
279B Core Oil	Fast baking speed / high performance
10-F1	Medium baking speed / strength, low cost
10-100 Smokeless Core Oil	Reduced smoke and odor
CR-16 (U/F)	Reduced formaldehyde for non-ferrous

Note 1: The U/F binders contain nitrogen and are particularly suited for non-ferrous application, where excellent shakeout is required.

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Typical Binder Properties			
Product	Color	Weight per gallon	Flash Point °F (TCC)
279B Core Oil	Dark brown	7.8	148
10-F1 Core Oil	Dark brown	7.8	110
10-100 Smokeless Core Oil	Dark brown	7.9	150

Typical Properties CR-16 Synthetic Binder	
Specific Gravity	1.280 – 1.299
Flash Point °F (Set A)	>200
Storage Life @ 50°F	12 Months
Storage Life @ 70°F	4 Months
Storage Life @ 90°F	1.5 Months

SAND MIXES

The following mix formulas and cycles are intended to be a starting point and can be altered to suit particular applications;

<u>Sand</u>	100 lb.	
<u>Cereal</u>	1 lb. (1%), with all other dry additives	Mull for 1 minute.
<u>Water</u>	2 lb. (2%)	Mull for 2 minutes.
<u>Binder</u>	1 lb. (1%)	Mull for 1 minute.
<u>Release</u>	1/8 to 1/2 oz.	Add 15 - 30 seconds prior to discharge.

Note 1: We recommend using 16-250 Sand Conditioning Oil partings / release agent. This product has been engineered for the binders.

Note 2: Different types of mullers may require different mull times.

Note 3: We recommend use of an amperage indicator on the motor of the muller to help determine optimum mull cycles.

HA International LLC
SUGGESTED BAKING TEMPERATURES
“The Best Total Solution”

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Core Oils	400 - 500 ° F
CR-16	300 - 400 °F

Note 1: While higher temperatures will cause the binders to bake faster, the opportunity for overbaking is greater, which will reduce the quality of cores.

STORAGE GUIDELINES

Recommended storage temperature for the core oils is between 60 - 90 ° F. At lower temperatures, viscosity will increase, making pumping and mixing more difficult. At higher temperatures, solvent loss could occur. For the baking resins, the recommended storage temperature is between 60 - 75 ° F. These materials have a definite storage life, as discussed earlier, and colder storage temperatures will increase shelf life. Drum storage should be in a dry area, out of direct sunlight. Partially used drums should be tightly closed, to prevent contamination.

SAFE HANDLING

Chemically resistant gloves and eye protection should be used when handling or using chemical binders. Material Safety Data Sheets are available for all products. Drum labels also contain handling information.

TECHNICAL SERVICE

Proper selection of a binder system that meets your specific needs is key to achieving maximum performance benefits. HA International, LLC provides in-depth technical assistance and a wide range resins. For additional information relating to the selection of resins or catalysts, please contact your HA International, LLC representative so that we may assist you in putting together a binder system and foundry team that will help you achieve your goals. Both our in-house and field experts are available to assist you with your most challenging foundry application.

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