



# Matthews University



Elder Davis

## “Did You Know”™ Educational Series



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### **Safe Cremation of Large Human Remains**

Human remains over 300 pounds must be handled carefully in cremation. Consult your owner’s manual, equipment manufacturer, or service company for specific instruction before proceeding. The most important thing to remember is: Never cremate large human remains in a hot cremation chamber.

BODY COMPOSITION			
Gender/Age	Lean Body Tissue	Skeleton	Fat Tissue
Male, age 25	72%	9%	19%
Female, age 25	63%	8%	29%
Male, age 65	65%	8%	27%
Female, age 65	57%	7%	36%

Lean body weight and body fat in human remains varies with age and gender (see Table). On average, a 25-year-old female has 52% more body fat than a 25-year-old male. A 65-year old female has more fat tissue than a 65-year-old male. The 25-year-old male and the 65-year-old female are markedly different; the 65-year-old female has 89% more body fat. How does this affect cremation? Human remains make up a portion of the combustible material or fuel used to complete the cremation. Larger bodies represent more fuel.

Cremation equipment is designed to handle both fat tissue and lean tissue in above-average amounts. As with any machinery, when the design limits of cremation equipment are exceeded, the results may not be optimum. With large human remains, such results might take the form of visible emissions (smoke) and overheating of the cremation equipment. Why does this happen? During cremation, fat tissue releases about 20,000 BTUs per pound – 20 times more heat. The cremation chamber’s refractory lining acts as a thermal shock absorber, absorbing the energy given off by the remains. Like a sponge, it can become partially or totally saturated. When hot, the refractory lining is already partially saturated with heat energy. Cremating a large body then releases a great deal more energy into the cremation chamber. This can result in visible emissions and/or overheating. That’s why the cremation chamber’s refractory lining should be *cold* when a large body is cremated, so the full absorptive capacity of the refractory is available.

The operator is an important partner in the proper operation and maintenance of cremation equipment, especially when cremating large human remains. Temperature controls and safety systems can never completely replace the operator’s judgment when handling special cases. These guidelines can help avoid complications associated with special cases and free more time for serving families:

- Never cremate large remains in a hot cremation chamber.
- Large bodies take more time to cremate. An operator should stay on site, in case operating control changes are needed.
- Keep your operators thoroughly trained in the operation and maintenance of cremation equipment, and in the handling of normal and special cases.
- Be sure your operators know who to call for assistance if they encounter a problem.

*For service, sales or assistance please call (800) 327-2831*

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*Questions or comments may be sent to the address listed above*

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