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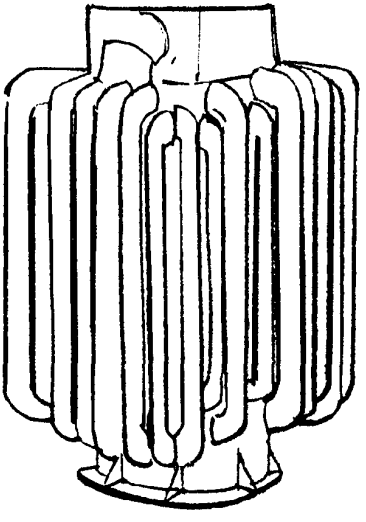
here's how to GET MORE PERFORMANCE and SAVE MONEY when specifying transformers



Monsanto

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ASKAREL

. . . the fire-resistant dielectric preferred by

askarel fire-resistant transformers offer

LOWER OPERATING COSTS
due to lower power losses

HIGH IMPULSE STRENGTH
giving a margin of safety against transformer failure

LOW MAINTENANCE COSTS
install them and leave 'em alone

LOW INSTALLATION COSTS
place them where YOU want them placed

FIRE-RESISTANCE
askarel provides safety from fire

QUIETNESS
naturally designed to be quieter than open dry types

RELIABILITY
more than 30 years of trouble-free operation

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specifiers who want to save money now and for years to come...

For over 37 years askarel transformers have served the commercial, industrial and utility fields faithfully with safety, economy and reliability. They are built to exact specifications by all major electrical equipment manufacturers.

Mineral oil transformers can catch fire. When used in confined or populated areas, they require fire walls, vaults, and sprinkling systems; or they must be located at a more remote point requiring long expensive low-voltage lines.

Open dry type transformers are limited in flexibility of location. Supplemental installation costs usually run much higher than with askarel units, especially if sound-deadening or enclosing from atmospheric contamination and moisture is required. They are less dependable than askarel units because they are affected by corrosive atmospheric conditions. Due to the nature of open dry type units, they can require a great deal of maintenance; have a high noise level, are expensive to operate, and have lower impulse strength and overload capacities.

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[illegible] fire-resistant transformers operate [illegible] than other types [illegible] lower core and coil losses

TYPICAL EXAMPLE

1,000 KVA, 3 phase, 60 cycle, 13,800 to 480 Y volts. Transformer first cost assumed about $8,500.

UNIT	CORE LOSS (Watts)	COIL LOSS (at 100% Load) (Watts)
Open Dry Type	4,200	18,500
Askarel Unit	2,900	12,500

(A) Based on a 75% load factor, coil losses are approximately as follows:

Open Dry Type.....18,500 x $(.75)^2$ = 10,400 watts

Askarel Type.....12,500 x $(.75)^2$ = 7,000 watts

Coil Loss Difference...3,400 watts

Total Core and Coil Loss Difference in favor of Askarel.....4,700 watts

Based on an 8,700 hour year operation:

4,700 x 8,700 = 41,000 KWHR (Approx.)

Assuming power cost is $0.15 per KWHR: the savings each year is $615.00 . . . or the Askarel Transformer first cost is paid for in about 10 years.

This annual savings compounded at 6% per year.

Askarel units deliver a steady power flow year after year, offering lower operating and maintenance costs, quietness and dependability. They are fire-resistant and allow you to place them where YOU want them placed, right at the point of use if you choose. Think of the savings in installation alone!

Askarel will not oxidize or sludge; remains chemically stable when subjected to elevated temperatures and will not corrode metals.

Incorporate your own figures in the following example and prove this point to yourself. The figures shown assume the same first cost of an askarel transformer and an open dry type unit. (Askarel transformers are now quoted at the same price as 150°C. open dry types.)

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askarel fire-resistant transformers offer easy maintenance

And this is just one of the many advantages Askarel Transformers offer over open dry types.

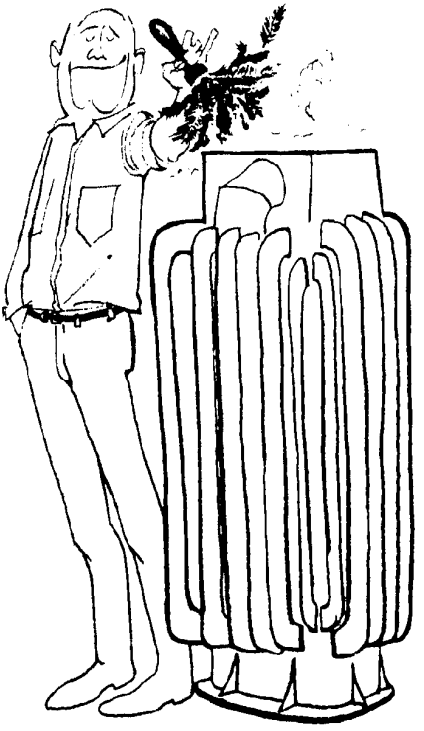
askarel fire-resistant transformers offer higher impulse levels and greater overload capacities than open dry types

ASKAREL GIVES YOU AN ADDED MARGIN OF SAFETY AGAINST POWER FAILURE!

Don't settle for anything less than a transformer that will handle the full basic impulse level of the system. A liquid transformer gives you greater overvoltage protection and just naturally has more overload capacity because of a built-in heat sink. Askarel is your answer to the overload and power surge problem.

LOW MAINTENANCE MEANS GREATER SAVINGS IN TIME AND MONEY!

Askarel transformers are easiest to maintain. Proper sealing of modern askarel transformers has banished the threat of water contamination, the arch enemy of all transformers. No need to periodically shut down the system for cleaning . . . the askarel fluid is sealed against moisture and atmospheric contamination. Other than an occasional fluid test, you install them and leave 'em alone.



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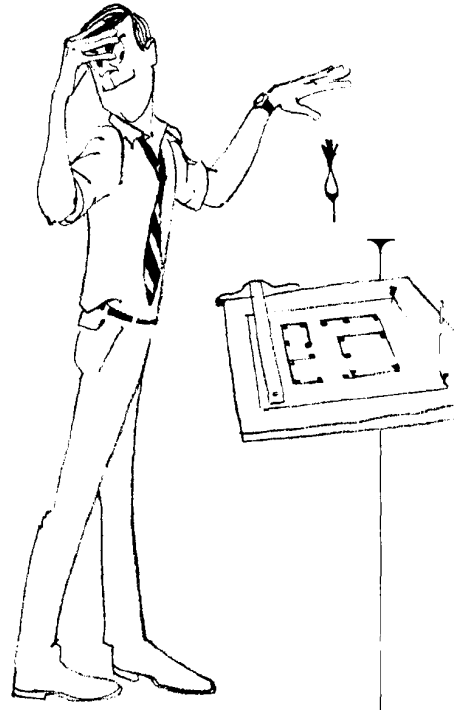

askarel fire-resistant transformers can give you lower installation costs

PLACE THE ASKAREL TRANSFORMER WHERE AND WHEN YOU WANT IT PLACED!

Because of the unique features of askarel transformers, you can place them where and when YOU want them placed . . . right at the point of power usage if you desire. You do not have to wait until other phases of construction are completed. No added expenses are necessary to protect it from contamination, subdue the sound level or run expensive lines from distant locations. You place it where your system dictates, not where the transformer dictates.

The start-up costs for askarel transformers are almost nil. Because they are sealed, there is no expensive clean-up and drying out required prior to starting. Just bring it in, hook it up and start operating. This alone offers a big savings.

askarel transformers offer fire safety...

ASKAREL FLUIDS ARE FIRE-RESISTANT!

The fluid is fire-resistant and does not support combustion. Just as important, the fluid will not carry or add burning oil hazards to fires which may start from other causes. The liquid does not deteriorate when exposed to heat or hot metal; it does not decompose over long periods of time. The gases formed by arcing will not support combustion, eliminating the possibility of fire. Municipal codes also tend to favor askarel transformer installations over other types.

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CHECK THE STANDARDS

Open dry types produce a higher noise level, requiring expensive sound-suppressing additions or location far from the point of power usage. Wherever the sound level is a factor, askarel transformers rate quieter than comparable open dry type units . . . 3 to 6 decibels is a major reduction in discernible sound level.

askarel fire-resistant transformers are reliable...

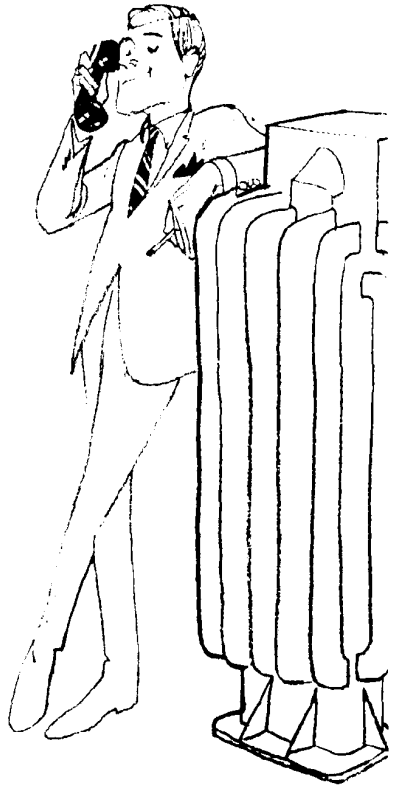
THERE ARE MANY EXAMPLES OF OVER 30 YEARS OF TROUBLE-FREE OPERATION!

A properly designed and installed askarel transformer will give long years of trouble-free service . . . many in operation for over 30 years. This fact has been proven in installations throughout the world. Even longer life can now be expected due to more modern design practices in sealing out moisture and eliminating leaks.

LET'S GET ALL THE FACTS ON THE TABLE

Askarel fluids have been manufactured, handled and used safely for 37 years. Transformer makers, utilities and specifiers handle askarel fluids under standard normal good housekeeping and personal precautions used with other industrial materials.

askarel fire-resistant transformers are quieter!



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ARCING IN ASKAREL DOES NOT PRODUCE

Should you encounter this misconception, don't you believe it! Five independent series of research from three different countries, both theoretically and in practice, prove that it is impossible to derive Phosgene or Chlorine from the arcing of askarel. Under strong conditions of arcing, HCL gas can be evolved. Where appropriate or necessary, standard techniques or devices for venting are available from transformer makers.

The most significant and reliable measurement of transformer askarel electrical performance is its dielectric strength. Askarel will maintain its high dielectric strength unless there is a significant amount of moisture contamination or breakdown of the fluid from an unusually severe electrical discharge.

Askarel fluids are manufactured by Monsanto and shipped to transformer makers all over the world. They are manufactured and quality checked for consistency and properly packaged for shipment.

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PHOSGENE OR CHLORINE GASES!!



Operating with askarel fire-resistant transformers is the safest, easiest and often the least expensive way to distribute electrical power. Your transformer supplier can give you the complete story on his askarel transformers. Be sure to check with him soon . . . specifying askarel transformers is your best bet when your plans call for transformer equipment in . . .

Industrial Unit Substations, Load Centers, Power Centers . . . in factory areas where maximum safety from fire is required and where atmospheric contamination may exist.

Utility Networks . . . where safety and space is a consideration.

Institutions and Office Buildings . . . schools, hospitals, hotels, shopping centers, apartments, etc. where maximum safety, low noise levels and space is a prime factor.

In any electrical system . . . where you are charged with the responsibility of giving your client the best installation available at the lowest overall installation and operational cost.

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SPECIFY ASKAREL FOR YOUR NEXT JOB

Monsanto will be happy to supply you with a copy of "The Care and Grooming of Askarel Transformer Fluid" or "Monsanto Askarel Inspection and Maintenance Guide." Ask your supplier to get your copy for you, or simply return the coupon below.

Monsanto Company
Functional Fluids Dept. 323
800 North Lindbergh Blvd.
St. Louis, Missouri 63166

Please send the literature checked

☐ The Care & Grooming of Askarel Transformer Fluid

☐ Monsanto Askarel Inspection & Maintenance Guide

Name/Title

Company

Address

City/State/Zip

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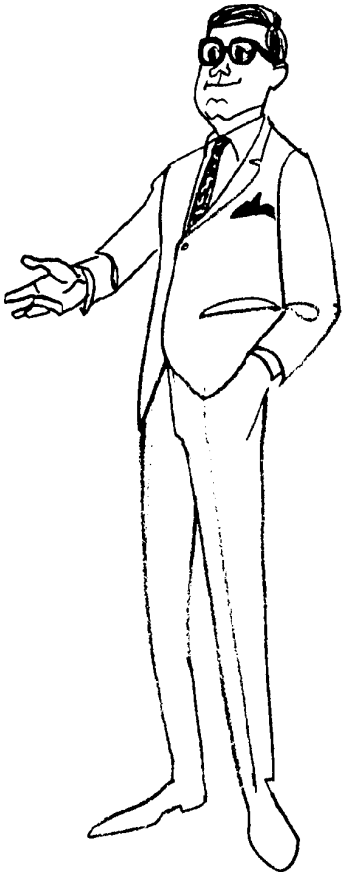

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