ADHESIVES
FOR FRICTIONS MATERIALS

Technical Data Sheet
Adhesive AR 2030 KTE/9TX

AR 2030 KTE/9TX is a thermosetting adhesive based on a blend of phenolic resin and modifiers agents supplied in solution with not dangerous solvents. This adhesive is used in bonding process of the most various kinds of linings on metallic brake shoes especially if in the lining is present a quantity (in weight) of graphite more than 10%. Due to its physical properties this product must be applied with a roll coating machine. The best device, in this case, is the coating machine Euro.Rigan type PSM 02-03 (for linings)

PHISICAL PROPERTIES

COLOUR	Amber/ Red
SOLID CONTENT	32 -38 %
VISCOSITY	75 – 95 sec Ford cup „Ø 6 @ 21°C
DENSITY	0,9 – 0,96 g/cmc @ 21°C

It has a tixotropic behaviour so, during the use, there is a viscosity decrease

CURE CYCLE

Read the points "employ method" / "general observations" and "cure curve"

VULCANIZATION

The adhesive AR 2030 KTE/9TX vulcanises about in 12 minutes with constant pressure of 10 Kg/sq.cm

RESISTANCE AT SOLVENTS

After vulcanization the adhesive don't melt in water, hydraulic fluid and other chemical products for car, as well as in alcohol and ketons

EMPLOY METHOD

1) Metal surface must be sandblasted and degreased. Sandblasting process increases both the mechanical adhesion and the total surface
2) Apply a film of adhesive on the lining surface. Thickness' dry film must be included between 30–40 microns
3) Dry fully the adhesive's film (at room temperature minimum 8 hours or with forced drying for example at 80°C /10 minutes). At the end the adhesive must not be sticky, but dry and perfectly soluble in solvent.
4) Put the components to be bonded together under a constant pressure included between 8 and 10 Kg per square centimetres (flexible linings) or 12/15 Kg per square centimetre (rigid linings), maintain pressure during the entire bonding cycle.
5) The ideal trend or, in other words, the correct ratio time/temperature is indicate in the CURE GRAPH (page 4) with the sky-blue line. The maximum peak during the bonding process must be 185°C.Overpeaks may cause fragility in final adhesive's film with consequent decrease in shear loads

BOND CHARACTERISTICS

Bond strength is usually stronger than the friction's material cohesion both at room and high temperature testing.

SHEAR TEST ON LABORATORY TEST TUBE

Referring norm : FIAT 9.55709 – SAE J1523

TEST TUBE

- 100 mm x 25 mm x 0,8 mm // Bonding area 3,25 square centimetres
- FEPO4l steel degreased and sandblasted or sandpapered or also with chemical treatment

Shear test at room temperature	>/= 100 Kg/sqcent
Shear test at 200°C	>/= 40 kg/sqcent
Shear test at room temperature on aged tubes	>/= 80 kg/sqcent
Shear test at 200°C on aged tubes	>/= 40 kg/sqcent

The adhesive AR 2030 KTE/9TX fulfils these requirements

SHEAR TEST ON BRAKE SHOES

Referring norm : FIAT 5.00608
Break load : >/= 20 daN/sqcent
The adhesive AR 2030 KTE/9TX fulfils this requirement
Other references may be the following norms : SAE J840 or UNI ISO 6312

FLASH POINT

This adhesive is FLAMMABLE
It must not be used near flame or sparks
It's flash point is at 17°C

SOLVENTS

It's not advisable to dilute this product during roll application. Dilution is advisable only if, during the roll application, a substantial increase of viscosity happens (due to a natural solvent evaporation)
The product can be diluted with MEK/ETHANOL/METHANOL/ISOPROPANOL. The solvent addition must be done stirring the adhesive.
To clean equipments or place of work the same solvents can be used

STORAGE

Stored in a well sealed container and in fresh and dry place (between 4 and 25°C) the adhesive's shelf life is 12 months from production's date

HEALT AND SAFETY

See Material Safety Data Sheet (MSDS)

NOTE

Whilst all reasonable care has been taken in the compilation of this data sheet, it is the customers responsibility to determine the suitability of the product of the desires application. It is strongly recommended that each liner type be thoroughly tested before production usage.

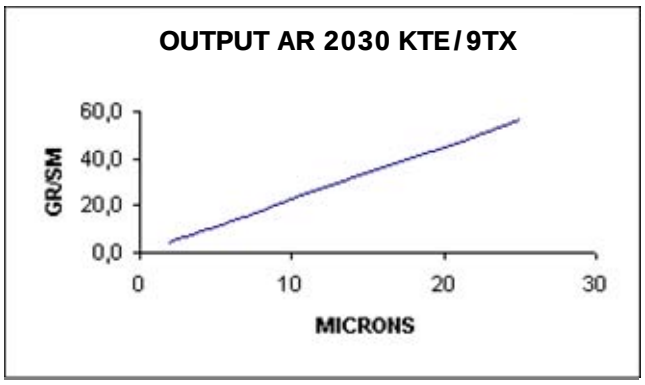
GENERALS OBSERVATIONS

The employment technical norms upper shown have only an indicative and general value and no compulsory.
Each manufacturer, in its own cycle, must assure to give during bonding process an optimal time-temperature ratio. Modifications to the described conditions at chapter " VULCANIZATION" are possible and sometimes useful, in comparison to different kind of friction material mixture to bond on the metallic support.
Our technical service at rd@eurorigan.com is at disposal to examine any query and to propose the best solution.
The best operative conditions will be suggested only from direct experience.
In bonding process, the correct ratio time/temperature is indicate in the CURE GRAPH with the sky-blue line
The correct dry adhesive's thickness film is 30-40 microns.
Thickness' variations are possible and sometimes useful, in function of friction's material kind (porosity/absorption).

OUTPUT GRAPH CURVE

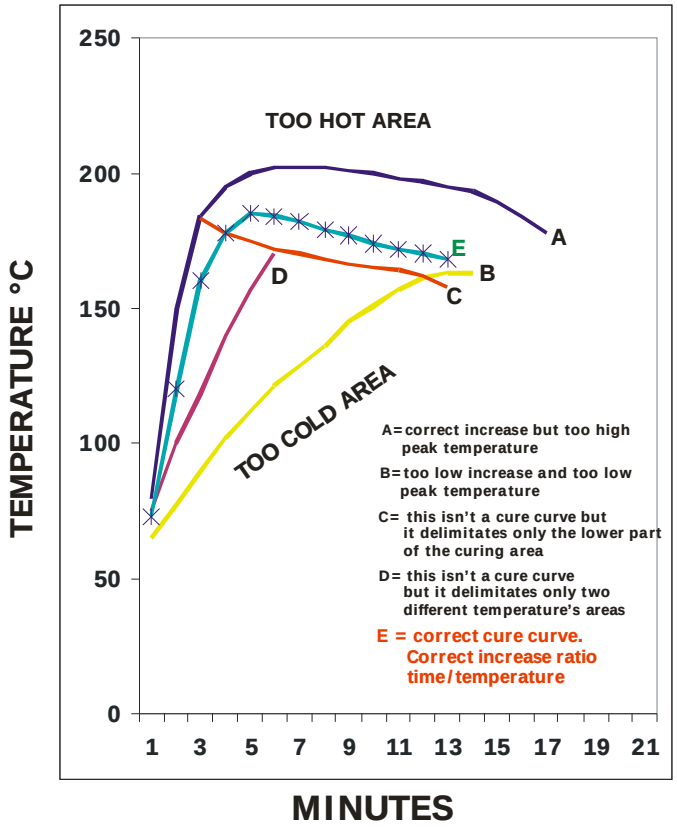
Here we present a study regarding how many adhesive ,in grams,(G) is necessary for a square meter (SM) to obtain a defined dry film thickness measured in microns (microns)
This, obviously, is intended a theoretical output. The practice output is depending to the application system, environmental conditions and customer's experience.

MICRONS	G/SM
2	4,5
2,5	5,6
3	6,8
3,5	7,9
4	9,0
4,5	10,1
5	11,3
6	13,5
8	18,0
10	22,5
13	29,3
16	36,1
20	45,1
25	56,3



SKY BLUE LINE INDICATES THE CORRECT RATIO TIME/TEMPERATURE (E line type)

CURE CURVE



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