

2-PACK POLYURETHANE FOAM

GENERAL INFORMATION ON MIXING AND USING TRIPOR SYSTEMS

TRIPOR IS A RANGE OF 2-PACK POLYURETHANE POUR-IN-PLACE SYSTEMS. SOLD IN PACKAGES FROM 1 kg TO 250 kg IN WEIGHT. ALMOST ALL SYSTEMS USE THE SAME COMPONENT B (ISOCYANATE), THE CHARACTERISTICS OF THE FOAM PRODUCED ARE DETERMINED BY THE CHOICE OF COMPONENT A.

WHILST IT IS POSSIBLE TO MEASURE OUT THE COMPONENTS BY VOLUME, IT IS NOT GENERALLY RECOMMENDED BECAUSE IT IS NOT STRAIGHT FORWARD TO CALCULATE THE VOLUMES REQUIRED AND IT IS VERY EASY TO BE A LONG WAY "OFF RATIO" AND END UP WITH INFERIOR IF NOT UNSTABLE FOAM. IT IS THEREFORE BEST TO MEASURE BY WEIGHT, AND, IF POSSIBLE, TO WEIGH THE SECOND COMPONENT INTO THE FIRST, TO AVOID THE NECESSITY TO "WET-OUT" THE POURING CONTAINER. BEFORE USING THE COMPONENT A IT SHOULD BE PRE-MIXED TO AERATE IT WHICH WILL HELP GIVE A BETTER MIX AND A FINER CELLED FOAM STRUCTURE.

THE CHOICE OF MIXER TO BE USED WILL BE DETERMINED BY THE AMOUNT TO BE MIXED, THE MIXING VESSEL AND THE AVAILABILITY OF POWER. MIXING BY HAND, ALTHOUGH POSSIBLE, IS NOT RECOMMENDED.

FOR QUANTITIES UP TO 25kg, AN ELECTRIC DRILL OF 550 WATTS OR GREATER, REVOLVING AT 2000rpm OR GREATER, SHOULD BE ADEQUATE, WHEN COMBINED WITH A SUITABLE STIRRER. THE MAJOR D.I.Y. CHAINS SELL A REASONABLE MODEL, DESCRIBED AS A "BLACK & DECKER PAINT STIRRER". QUANTITIES LARGER THAN 25kg WILL REQUIRE A MORE POWERFUL MOTOR, AND AS THIS WILL USUALLY MEAN A REDUCTION IN ROTATIONAL SPEED THERE WILL HAVE TO BE A CONSEQUENTIAL INCREASE IN STIRRER DIAMETER, TRIDENT USE A 1200W DRILL REVOLVING AT 1025rpm WITH AN 8" DIAMETER PROPELLER TO MIX UP TO 60kg.

A USEFUL GUIDE TO THE SUITABILITY OF THE STIRRER IS THAT IT SHOULD MIX THE RELEVANT AMOUNT OF COMPONENT A TO A WHITE FROTHY CONSISTENCY IN THE MIXING TIME WHICH WILL BE USED FOR FOAMING.

TEMPERATURES ARE A SIGNIFICANT FACTOR IN MIXING, 15-25 Deg. C IS THE RECOMMENDED RANGE. LOWER TEMPERATURES GIVE HIGHER MATERIAL VISCOSITIES. BUT MIXING CAN BE CARRIED OUT FOR LONGER, WHEREAS HIGHER TEMPERATURES GIVE LOWER VISCOSITIES BUT FASTER REACTIVITY, 18-20 Deg. C IS USUALLY A GOOD COMPROMISE.

THE ACTUAL MIXING TIME TO BE USED WILL BE A COMPROMISE BETWEEN THE TIME TAKEN TO GIVE THE BEST POSSIBLE MIX AND THE TIME REQUIRED TO POUR THE MIXTURE INTO THE CAVITY. FOR SMALLER QUANTITIES (<5kg) AT 20 Deg C THE TOTAL MIXING TIME SHOULD NOT BE MUCH MORE THAN THE CREAM TIME STATED ON THE TECHNICAL DATA SHEET, LARGER QUANTITIES WILL HAVE TO BE ASSESSED BY TRIAL AND ERROR, BUT ALL FOAM PRODUCED SHOULD HAVE A FINE EVEN CELL STRUCTURE.

CONTAINERS OF CHEMICALS SHOULD BE KEPT SEALED WHEN NOT ACTUALLY IN USE, AS THE COMPONENT A WILL ABSORB ATMOSPHERIC MOISTURE CAUSING LOWER DENSITY FOAM AND POSSIBLE INSTABILITY, WHILST THE COMPONENT B WILL REACT WITH MOISTURE TO GIVE A SOLID PRODUCT, GIVING SKIN ON THE LIQUID SURFACE OR LUMPS IN THE CONTAINER. POLYURETHANE FOAM WILL GIVE BETTER PROPERTIES AND PERFORMANCE IF IT IS "OVERPACKED" OR RESTRAINED AS MUCH AS IS REALISTICALLY POSSIBLE RATHER THAN ALLOWED TO RISE WITHOUT ANY RESTRICTION.

BEFORE USING ANY SYSTEM IT IS IMPORTANT TO READ THE RELEVANT MATERIAL SAFETY DATA SHEETS AND ENSURE THAT THE MATERIALS ARE USED SAFELY.