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TECHNICAL DATA SHEET

Ref: ER 83 A

Rev: 1 Date: 05/05

MANUFACTURER : SHERWIN (USA)/NDT Europa (NL)
DISTRIBUTOR: NDT Consultants Limited (UK)

DESCRIPTION / APPLICATIONS:
Concentrated product that is diluted in water to emulsify the excess of post-emulsifiable penetrants such as the RC-series

COMPANION PRODUCTS:
ER 83 A hydrophilic emulsifier
ER 85 lipophilic emulsifier
D90G, D 100 developers

SPECIFICATIONS / STANDARDS:
AMS 2644-QPL-1-listed with penetrants RC 29, RC 50, RC 65, RC 77, RC 88
GENERAL ELECTRIC: all levels
TURBOMECA: class P3
MTU: 83/299, 83/296, 83/297
SNECMA: levels S2, S3, S4 DMC 0010
AIRBUS-EADS : IGC-04-25-101
ROLLS ROYCE: all levels
PRATT & WHITNEY: all levels
DASSAULT: IQ-1-01-20
CFMI : Standard Pratices Manual 70-32-15 page 5

PHYSICO-CHEMICAL PROPERTIES:
Aspect: pinkish liquid
Maximum water content: 2 %
Flash point (pure): > 93°C
Viscosity (pure): 40 $mm^2/s \pm 10$ % at 38°C
Recommended dilution : - immersion : < 20 %
Spraying : 0,1 to 3 %
-Very low halogen and sulfur content
-Compatible with all metals and certain plastics

PACKAGING / SHIPPING / STORAGE:
Packaging:
1-, 5-, and 10-liter canisters.
60-liter drum.
200-liter drum.
300-ml spray can.
Shipping / Handling: refer to MSDS
Storage / Shelf life: keep away from moisture

Temperature limit : 0 to 50° C.
Keep packaging closed after taking out some of the product.
Shelf life:
spray can: 24 months
Canister / drum: 48 months

INSTRUCTIONS:
1. Spray
(pneumatic or electrostatic)
A highly diluted solution of ER 83 A is better (0.1% to 3%). However, a greater concentration may also be used.
The concentration is to be determined according to:
-Pre-washing result,
-Surface condition,
-Attractiveness between part surface and penetrant
-Strength of the spray,
-Dwell time of the emulsifier (washing time + time elapsed before rinsing).
Smooth surfaces, or a relatively non-adhering penetrant, can allow you to use a 0.2% solution for 10 seconds, for example:

Spray cans:
ER 83 A is available in spray cans, diluted at 5% in water. After penetrant dwell time, it is suggested to pre-rinse the penetrant with water, and then apply the ER 83 A ready for use without rubbing. Allow 30 to 180 seconds contact time, depending on prior tests, and rinse with an air + water gun.

2. Immersion:
It is recommended to pre-wash parts to eliminate as much excess of penetrant as possible due to mechanical action of water. Then, dip the parts into an ER 83 A solution, let drain and rinse with water. Note: it is recommended not to move the parts during immersion, nor to stir the emulsifier. As there is no mechanical agitation or action other than the incoming and outgoing movement, plus the final rinsing, a solution more concentrated than for spraying is required to eliminate the penetrant. The typical concentration is 5 to 20%, but, depending upon the case, more diluted or more concentrated solutions can be used.

NOTES:
ER 83 A concentration should be regularly checked. The superficial tension of the mixture being very low, water evaporates significantly more quickly than observed on pure water. Therefore, water should be added regularly, because increased concentration inevitably causes greater activity for the emulsifier. The emulsifier concentration in water can be measured using the BABB CO (Ref. 1) refractometer. In addition, the ER 83 A solution should checked for its penetrant content, because contamination with penetrant interferes with the emulsifying process and, after some time, the ER 83 A solution should be replaced.

HEALTH AND SAFETY:
-refer to MSDS. *The information given herein is given in good faith to our customers for the sole purpose of assisting them in the use of the products. The document contains no formal or implicit guarantee regarding its use. NDT Consultants Limited cannot be held responsible for damages of any nature resulting from information provided in this document. In addition, none of the information which the document contains should be interpreted as a recommendation for the use of the products which would infringe the protected rights of industrial property.*