JOHNSON & ALLEN
NDT EXPERTS SINCE 1938

JAD DEVELOPER

Version 12012021

Non-Aqueous Wet Developer

JAD Developer is bright white non-aqueous wet developer which creates an opaque white background for high-contrast penetrant testing and quickly draws penetrant out to create stronger, clearer indications for better inspection reliability and sensitivity. JAD Developer is quick drying, promoting faster indication formation and minimizing post-inspection cleaning. JAD Developer can be used with both type 1 (fluorescent) and type 2 (visible/ red contrast) NEOPEN family penetrants.

Key Features

Form	D - Non-Aqueous Wet
Appearance	White particles in a clear liquid
Carrier Fluid	Dichloromethane
Flamability	Non-Flammable

1 Benefits

1.1 Increases indication visibility

- Improves indication detection by creating an optimal surface for penetrant indication formation.
- Wicks penetrant out of surface breaking discontinuities.
- Bright white, opaque coverage blocks all underlying surface color and quickly draws penetrant to the surface for stronger, clearer indications.

1.2 Application versatility

- Can be used with a variety of type 1 (fluorescent) and type 2 (visible/ red contrast) penetrants.
- Suitable for use with JAP Penetrant, JAP W/W Penetrant and Neon W/W-A Penetrant.
- Can be used to inspect a wide range of parts and different materials - Most metallics and ceramics.

1.3 Wide application versatility

- Inspect a wide range of components without fear of corrosion or specification non-conformance.
- Meets or exceeds all requirements of ISO 3452 and ASTM E1417 - Ideal for professional industrial applications.

1.4 Maximum indication detection

- Allows penetrant to produces strong, vibrant indications with uniform matte opaque coating.
- Part of the NEOPEN product family of high quality penetrant testing consumables products from Johnson & Allen Ltd.

1.5 Faster processing and cleaning

- Reduces inspection process time by minimizing post-inspection cleaning.
- Easy-to-apply formula goes on cleanly, dries quickly and promotes faster indication formation.

Johnson and Allen Ltd
Neocol Works, Smithfield, Sheffield, S3 7AR
Head Office: Tel: +44 (0) 114 273 8066 Email: info@johnsonandallen.co.uk
www.johnsonandallen.co.uk

JOHNSON & ALLEN
NDT EXPERTS SINCE 1938

JAD DEVELOPER

2 Method of use

2.1 Introduction

The information presented in this section is intended as a manufacturer's guide and best practice recommendations for a typical inspection process. It is strongly recommended any NDT procedure be first approved for use by an organisations qualified level 3 NDT operator or by someone in a senior position (e.g. quality manager) prior to any work being undertaken. JAD Developer is available in both 475g aerosols and in 5L bulk containers and may be applied by aerosol or spray.

2.2 Preperation

JAD Developer aerosols or bulk containers must be shaken thoroughly before and during use to ensure even suspension of particles in the carrier solvent as suspension of solid particles in the product will settle out on standing. JAD Developer must be applied by a light even spray, other methods of application such as immersion or brushing will cause a loss of process sensitivity.

2.3 Developing JAP Penetrant & JAP W/W Penetrant

JAD Developer is primarily intended for use with visible/ red contrast penetrants such as JAP and JAP W/W Penetrant where is serves a dual purpose of developing indications by wicking penetrant out of surface breaking discontinuities and as a background contrast to make indications easy to view. JAD Developer should be applied using a spray, this is typically done using aerosol. Shake aerosol can well before use and spray an even developer film over the area to be inspected, spraying distance of 20 to 30cm. Allow a minimum of 15 minutes developing time before inspection – Fine defects could require up to maximum of 30 minutes. Successive sprayings may be required until the surface under test is just covered by a solid white uniform film. Each spray application should be allowed to dry before subsequent layers are applied.

2.3 Developing Neon W/W-A Penetrant

While Dry Powder Developer is recommended for developing fluorescent penetrants, JAD Developer can also be used to develop Neon W/W-A but more care should be taken when spraying to achieve a thinner coating. In this instance JAD Developer is only being used to develop indications by wicking penetrant out of surface breaking discontinuities and should be applied by successive sprayings until a translucent layer is achieved and it is possible to see the test surface through the developer film.

2.4 Inspection

For visual red contrast inspection should be carried out under white light of at least 500 lux at the component surface. For fluorescent penetrant inspection viewing should be carried out in a darkened area with ambient light less than 20 lux and under UV-A light of peak wavelength 365 nm and minimum intensity of 1000 µW/cm² at the component surface. Indications will appear deep red when using either JAP Penetrant or JAP W/W Penetrant and bright yellow-green when using a Neon W/W-A. The lighting conditions can be confirmed by undertaking a daily performance check using a light meter.

2.5 Post Cleaning

After the final inspection the component surface can be cleaned using either JAC-2 or JAC-3 Cleaner.

Johnson and Allen Ltd
Neocol Works, Smithfield, Sheffield, S3 7AR
Head Office: Tel: +44 (0) 114 273 8066 Email: info@johnsonandallen.co.uk
www.johnsonandallen.co.uk

JAD DEVELOPER

2.6 Storage

Store in a cool place, protect from freezing conditions. The shelf life for aerosols and bulk are 18 months and 36 months from date of manufacture respectively. The date of manufacture will be displayed on the container along with the batch serial number.

2.7 Safety and Enviroment

Before undertaking the process described it is important that this complete document, together with any relevant Safety Data Sheets (SDS), be read and understood. All local and national regulations on the transport, storage, use and waste treatment of chemicals in concentrated or diluted form and as working solutions must be obeyed.

3 Product Data

General Information	
Appearance	White particles in a clear liquid
Family Classification	NEOPEN
White Light	> 500 lux - Required at component surface for JAP and JAP W/W
UV-A Light	> 1000 µW/cm² - Required component surface for Neon W/W-A
Minimum Develop Time	15 minutes
Maximum Develop Time	30 minutes
Carrier Fluid	Dichloromethane
Propellant (Aerosol)	Carbon Dioxide
Form	D - Non-Aqueous Wet
Sensitivity	Level 2 - Medium System
Temperature Range	5 to 50°C
Shelf Life (Aerosol)	18 months
Shelf Life (Bulk)	36 months
Halogen Classification	Designation 'Low'
Sulphur Classifaction	Designation 'Low'
Heavy Metal Classification	Designation 'Low'
Standard Compliance	
Penetrant Standards	ISO 3452 ISO 571 ASTM E1417 ASTM E165
Additional Standards	Contact Johnson & Allen Ltd for confirmation of compliance for additional standards not listed above

Johnson and Allen Ltd
Neocol Works, Smithfield, Sheffield, S3 7AR
Head Office: Tel: +44 (0) 114 273 8066 Email: info@johnsonandallen.co.uk
www.johnsonandallen.co.uk