

COURSE OVERVIEW FE0775
Visual Testing ASNT Level I-II Training & Certification
(ASNT, SNT-TC-1A)

Course Title

Visual Testing ASNT Level I-II Training & Certification
 (ASNT, SNT-TC-1A)

Course Reference

FE0775

Course Duration/Credits

Five days /3.0 CEUs/30 PDHs

Course Date/Venue

Session(s)	Date	Venue
1	June 23-27, 2024	Oryx Meeting Room, Doubletree By Hilton Doha- Al Sadd, Doha, Qatar
2	August 04-08, 2024	The Kooh Al Noor Meeting Room, The H Dubai Hotel, Sheikh Zayed Rd - Trade Centre, Dubai, UAE
3	February 09-13, 2025	Kizkulesi, Crown Plaza Istanbul Asia Hotels & Convention Center, Istanbul, Turkey



Course Description



This practical and highly-interactive course includes practical sessions and exercises. Theory learnt in the class will be applied using our state-of the-art simulators.



This course is designed to provide participants the theory lectures and practical training with a preliminary understanding of Visual Testing (VT) as per the ASNT Recommended Practice No. SNT-TC-1A for Personnel Qualification and Certification in Nondestructive Testing.



Sample Questions for general examinations are presented in the separate question booklets that can be obtained from ASNT International Service Center. Participants will further demonstrate familiarity with and ability to operate the necessary equipment for UT, record and analyse the resultant information to the degree required as well as test flawed specimen and component and analyse the results of NDT as part of the practical training.

At the completion of the course, participants will be appearing for a Level I-II exam. Each candidate will be a 'Certified ASNT NDT Level I-II in Visual Testing' upon successfully passing the examination with a minimum passing composite grade of at least 80 percent (%) which will be administered and graded by Haward Technology through its Certified ASNT Level-III instructors.

Visual inspection provides the basic element for evaluation of structures or components being fabricated. It constitutes an important aspect of practicable quality control for weldments with joints that require testing.

It has been proven in numerous situations that an effective programme of visual inspection will result in the discovery of the vast majority of those defects which would be found later using some other more expensive non-destructive test methods

This course includes an outline of the fundamental requisites for personnel performing visual inspection of welds and provides an introduction to visual examination related to welding.

Hands-on practical sessions will be conducted to allow participants to use these inspection tools for measurement of welds on actual specimens or replicas. Participants will follow a course programme based on AWS text and workbook on Visual Inspection. Welding inspectors will also find that this course greatly enhances their performance and preparation for the AWS Certified Welding Inspector Certification.

Course Objectives

Upon the successful completion of the course, each participant will be able to:-

- Get certified as an “*Certified ASNT Level I & II in Visual Testing*”
- Review the different Visual Testing fundamentals, applications and specific procedures for visual testing
- Determine employer-defined applications including the description of inherent, processing and service discontinuities
- Enumerate the applicable equipments such as mirrors, magnifiers, borescopes fiberscope, closed-circuit television, light sources and special lighting, gages, templates, scales, micrometers, calipers and special tools
- Carryout visual testing procedures from selection of parameters, test standards & calibrations, classification of indications per acceptance criteria and reports and documentation
- Recognize the importance of vision and lighting in visual testing
- Heighten awareness of the material attributes, environmental & physiological factors and visual perception in visual testing
- Evaluate the criteria of the acceptance and rejection in visual testing and employ proper recording & reporting

Exclusive Smart Training Kit - H-STK®



Participants of this course will receive the exclusive “Haward Smart Training Kit” (H-STK®). The H-STK® consists of a comprehensive set of technical content which includes **electronic version** of the course materials conveniently saved in a **Tablet PC**.

Who Should Attend

This course provides an overview of all significant aspects and considerations of visual testing in accordance with the ASNT international standard for engineers, inspectors and technicians who successfully completed the 40-hour Visual Testing ASNT Level-I Training.

Exam Eligibility & Structure

Exam candidates shall have the following minimum pre-requisites:-

Initial Training & Experience Levels			
Level	Training Hours	Minimum Hours in VT Method	Total Hours in NDT
I	8	70	130
II	16	140	270

The experience shall consist of time at NDT Level I or equivalent. If a person is being qualified directly to NDT Level II with no time at NDT Level I, the experience (both Method and Total NDT) shall consist of the sum of the hours for NDT Level I and Level II and the training shall consist of the sum of the hours for NDT Level I and Level II.

Examinations Category & Criteria

Vision Examinations

- Near-Vision Acuity
 - This examination will ensure natural or corrected near-distance acuity in at least one eye such that the applicant is capable of reading a minimum of Jaeger Number 2 or equivalent type and size letter at the distance designated on the chart but not less than 12 inches (30.5 cm) or a standard Jaeger test chart. The ability to perceive an Ortho-Rater minimum of 8 or similar test pattern is also acceptable. This examination shall be administered annually.

- Color Contrast Differentiation
 - This examination will demonstrate the capability of distinguishing and differentiating contrast among colors or shades of gray used in the applicable NDT method. This shall be conducted upon initial certification and at five-year intervals thereafter.

General (Written)

- This examination will address the basic principles of the applicable method
- The NDT Level III will provide appropriate questions covering the applicable method to the degree required by the employer’s written practice
- The minimum number of examination questions that will be given is 40

Specific (Written)

- This examination will address the equipment, operating procedures and NDT techniques that the individual may encounter during specific assignments to the degree required by the employer’s written practice
- The specific examination will also cover the specifications or codes and acceptance criteria used in the employer’s NDT procedures
- The minimum number of examination questions that will be given is 20

Practical

- The candidate shall demonstrate familiarity with and ability to operate the necessary NDT equipment, record and analyse the resultant information to the degree required
- At least one flawed specimen or component shall be tested and the results of the NDT analysed by the candidate
- The description of the specimen, the NDT procedure including check points and the results of the examination shall be documented
- Proficiency shall be demonstrated in selecting and performing the applicable NDT technique within the method and in interpreting and evaluating the results on one or more specimens or machine problems approved by the NDT Level III. At least ten (10) different checkpoints requiring an understanding of NDT variables and the employer’s procedural requirements will be included. The candidate shall detect all discontinuities and conditions specified by the NDT Level III

Note: While it is normal to score the practical on a percentile basis, practical examinations shall contain check points that failure to successfully complete will result in failure of the examination

Additional Criteria

All written examinations will be closed-book except that necessary data such as graphs, tables, specifications, procedures, codes, etc., may be provided during the examination. All questions are approved by the responsible NDT Level III.

Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

- 30% Lectures
- 20% Practical Workshops & Work Presentations
- 30% Hands-on Practical Exercises & Case Studies
- 20% Simulators (Hardware & Software) & Videos

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

Course Fee

Doha	US\$ 6,750 per Delegate. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Dubai	US\$ 6,250 per Delegate + VAT . This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Istanbul	US\$ 6,750 per Delegate + VAT . This rate includes Participants Pack (Folder, Manual, Hand-outs, etc.), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

Qualification Certificate(s)

(1) Internationally recognized Qualification Certificates will be issued to participants who have successfully completed the course and passed the exam at the end of the course. Successful candidate will be certified as a “Certified ASNT NDT Level I in Visual Testing”. Qualification Certificate is valid for 5 years.

Qualification Certificate(s)

The following qualification certificate is a sample of the qualification certificates that will be issued to successful candidates:



(2) Official Transcript of Records will be provided to the successful delegates with the equivalent number of ANSI/IACET accredited Continuing Education Units (CEUs) earned during the course



Qualification Certificate(s)

(1) Internationally recognized Qualification Certificates will be issued to participants who have successfully completed the course and passed the exam at the end of the course. Successful candidate will be certified as a “Certified ASNT NDT Level II in Visual Testing”. Qualification Certificate is valid for 5 years.

Qualification Certificate(s)

The following qualification certificate is a sample of the qualification certificates that will be issued to successful candidates:




(2) Official Transcript of Records will be provided to the successful delegates with the equivalent number of ANSI/IACET accredited Continuing Education Units (CEUs) earned during the course.



Certificate Accreditations

Certificates are accredited by the following international accreditation organizations:-

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The American Society for Nondestructive Testing (ASNT)

Haward Technology has certain instructors who are certified by **The American Society for Nondestructive Testing (ASNT)** and are authorized to conduct ASNT's certification programs for specific NDT methods. ASNT is the world's largest technical society for nondestructive testing (NDT) that provides a forum for exchange of NDT technical information, NDT educational materials and programs, and standards and services for the qualification and certification of NDT personnel.


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The International Accreditors for Continuing Education and Training (IACET - USA)

Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units (CEUs)** in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

Haward Technology Middle East will award **3.0 CEUs** (Continuing Education Units) or **30 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

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British Accreditation Council (BAC)

Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

Course Instructor(s)

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:



Mr. Luis Lopez is a **Senior Inspection Engineer** with extensive experience within the **Oil & Gas, Petrochemical** and **Refinery** industries. His expertise widely covers in the areas of **Thermography, Thermal Infrared Testing, Radiographic Film Interpretation, Visual Testing, Phased Array Ultrasonic Testing, Ultrasonic Testing, Magnetic Particle Testing, Liquid Penetrant Testing, Non-destructive Testing, NDT Methods & Applications, Electromagnetic**

Testing, Hydrostatic Leak Testing, Eddy Current Testing, Valve Inspection & Testing, Codes & Standards Interpretation, Corrosion Engineering, Corrosion & Metallurgy, Welding & Corrosion Engineering, Welding Metrology, International Welding Codes, Practical Welding Technology, Plastic Pipe Welding, Welding Inspection, Welding Defects Analysis, Welding Joints & Coating Inspection, Post Weld Heat Treatment, Hardness Testing, Welding Electrodes Monitoring & Control, Pipe Testing, Piping System, Steel Structures, Metals Casting, Crane Functional Testing & Load Testing, Hydrotesting, Pressure Testing Procedure, Pressure Equipment Calibration, Stream Inspection, Corrosion Evaluation, Casting Products Inspection and Raw Materials Inspection. He is currently the **Senior NDT Instructor** of **SETE** wherein he is deeply involved in thermography, NDT qualification and certification of personnel.

During his career life, Mr. Lopez gained his practical and field experience through his various significant positions and dedication as the **Technical Manager, NDT Instructor, NDT Manager & Instructor, NDT Inspector, NDT Offshore Inspector & Quality Control, Phased Array Ultrasonic Technician** and **Radiographic Testing Technician** for various international companies such as the JP Inspections, Nova Inspection, NSD Services, Cotemar, UNISPEC Inspection and Ruiver.

Mr. Lopez holds a **Diploma in Professional Mechanical & Electrical Technician**. Further, he is a **Certified Instructor/Trainer, a Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership and Management (ILM)**, a **Certified ASNT-NDT Level III Inspector** in Infrared & Thermal Testing (**IR**), Liquid Penetrant Testing (**PT**), Magnetic Particle Testing (**MT**), Ultrasonic Testing (**UT**), Visual Testing (**VT**), Radiography Testing (**RT**), Leak Testing (**LT**), Electromagnetic Testing (**ET**), **Certified Welding Inspection & Metallurgy Professional (API 577)** and a **Certified AWS-CWI Welding Inspector**. He has further delivered numerous trainings, courses, workshops, seminars and conferences internationally.

Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1

0730 - 0800	<i>Registration & Coffee</i>
0800 - 0815	<i>Welcome & Introduction</i>
0815 - 0830	PRE-TEST
0830 - 0930	Introduction <i>Definition of Visual Testing • History of Visual Testing • Overview of Visual Testing Applications</i>
0930 - 0945	<i>Break</i>
0945 - 1100	Definitions <i>Standard Terms & their Meanings in the Employer's Industry</i>
1100 - 1230	Fundamentals <i>Vision • Lighting • Material Attributes • Environmental Factors • Visual Perception • Direct & Indirect Methods</i>
1230 - 1245	<i>Break</i>
1245 - 1420	Equipment (As Applicable) <i>Mirrors • Magnifiers • Borescopes • Fiber Borescopes • Remote Visual Inspection Systems</i>
1420 - 1430	Recap
1430	<i>Lunch & End of Day One</i>

Day 2

0730 - 0930	Equipment (As Applicable) (cont'd) <i>Light Sources & Special Lighting • Gauges (Welding, Go/No-go, etc.) Templates, Scales, Micrometers, Calipers, Special Tools, etc. • Automated Systems • Computer-Enhanced Systems</i>
0930 - 0945	<i>Break</i>
0945 - 1100	Employer-Defined Applications (Includes a Description of Inherent, Processing and Service-Induced Discontinuities) <i>Mineral-Based Material • Metallic Materials (Including Welds) • Organic-Based Materials • Other Materials (Employer-Defined)</i>
1100 - 1230	Visual Testing to Specific Procedures <i>Selection of Parameters • Test Standards/Standardization • Classification of Indications per Acceptance Criteria • Reports & Documentation</i>
1230 - 1245	<i>Break</i>
1245 - 1420	Vision <i>The Eye • Vision Limitations • Disorders • Employer's Vision Examination Methods</i>
1420 - 1430	Recap
1430	<i>Lunch & End of Day Two</i>



Day 3

0730 – 0930	Lighting <i>Fundamentals of Light • Lighting Measurements • Recommended Lighting Levels • Lighting Techniques for Inspection</i>
0930 – 0945	<i>Break</i>
0945 - 1100	Material Attributes <i>Cleanliness • Color • Condition • Shape • Size • Temperature • Texture • Type</i>
1100 – 1230	Environmental & Physiological Factors <i>Atmosphere • Cleanliness • Comfort • Distance • Elevation • Fatigue • Health • Humidity • Mental Attitude • Position • Safety • Temperature</i>
1230 – 1245	<i>Break</i>
1245 – 1420	Visual Perception <i>What Your Eyes See • What Your Mind Sees • What Others Perceive • What the Designer, Engineer & Others Wants You to See</i>
1420 - 1430	Recap
1430	<i>Lunch & End of Day Three</i>

Day 4

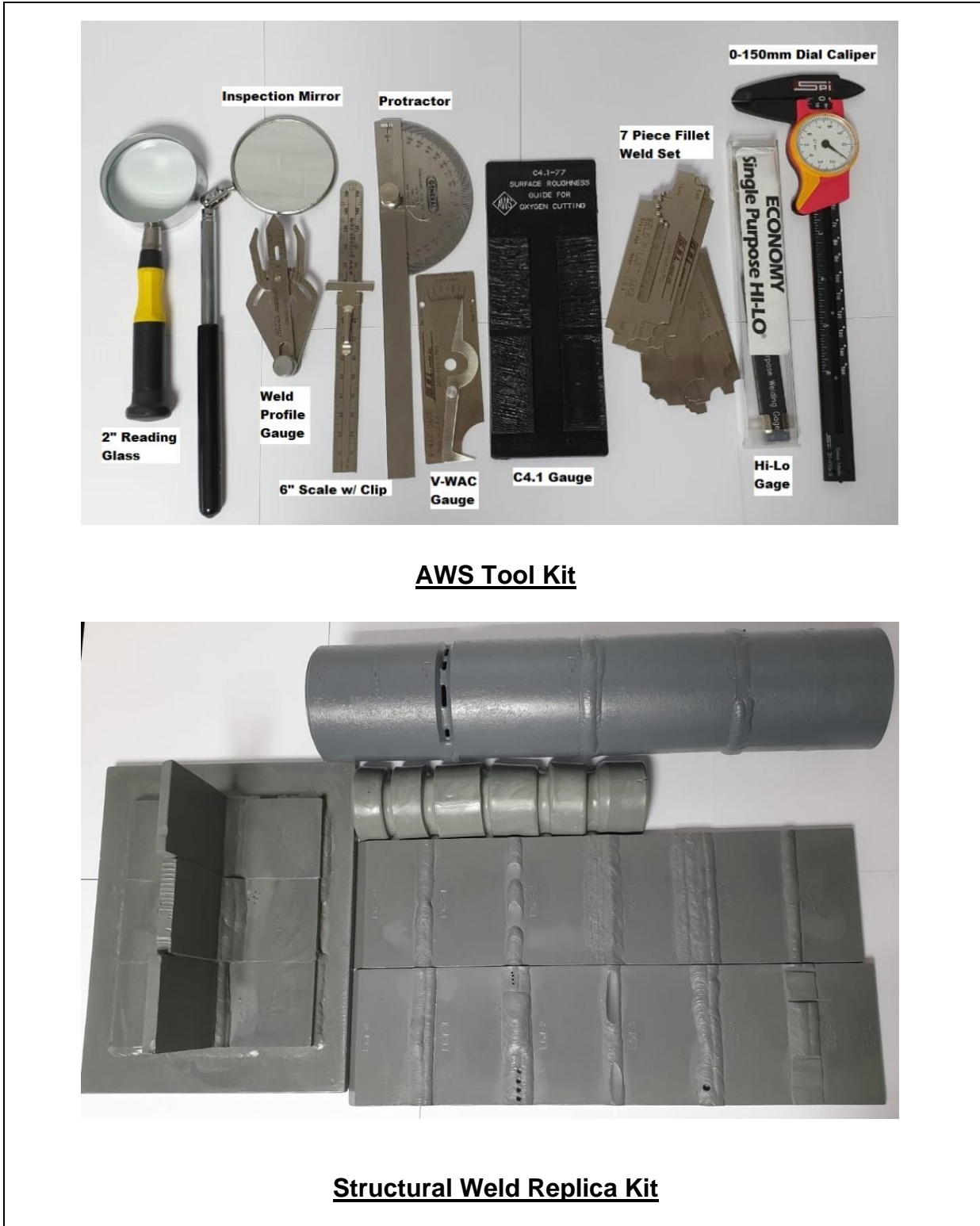
0730 – 0930	Equipment <i>Automated Systems • Borescopes • Closed-Circuit Television • Computer-Based Systems • Fiberscopes • Gages, Micrometers, Calipers Templates Scales, Etc.</i>
0930 – 0945	<i>Break</i>
0945 - 1100	Equipment (cont'd) <i>Imaging Systems • Light Sources & Special Lighting • Magnifiers • Mirrors • Special Optical Systems • Standard Lighting</i>
1100 – 1230	Employer-Defined Applications <i>Mineral-Based Material • Metallic Materials (Including Welds) • Organic-Based Materials • Other Materials & Products (Employer Defined)</i>
1230 – 1245	<i>Break</i>
1245 – 1420	Acceptance & Rejection Criteria <i>Subjective Basis (Qualitative) • Objective Basis (Quantitative) • Evaluation of Results per Acceptance Criteria</i>
1420 - 1430	Recap
1430	<i>Lunch & End of Day Four</i>

Day 5

0730 – 1000	Recording & Reports <i>Subjective Method • Objective Method • Recording Methods</i>
1000 – 1215	Theoretical Examination
1215 – 1230	<i>Break</i>
1230 – 1315	Theoretical Examination (cont'd)
1315 – 1330	<i>Break</i>
1330 – 1400	Practical Examination
1400 – 1415	Course Conclusion
1415 – 1430	<i>Presentation of Course Certificates</i>
1430	<i>Lunch & End of Course</i>

Practical Sessions

Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout welding inspection using the “American Welding Society (AWS) Tool Kit”, “Structural Weld Replica Kit”, liquid penetrant testing and calibration using the “micro CA-300 Inspection Camera” suitable for classroom training.



AWS Tool Kit



Structural Weld Replica Kit

RIDGID

micro CA-300

micro CA-300 Inspection Camera

See It. Find It. Solve It.®

Documentation made easy with the new RIDGID® micro CA-300 Inspection Camera, the next evolution of the microEXPLORER® Inspection Camera. Easily record still images and videos of problems in hard-to-reach areas and then share the findings with the RIDGIDConnect™ solution. Comfortable pistol-grip design, large screen and rugged anodized aluminum camera head with four bright LEDs make it easy to detect and diagnose the unreachable. Get the perfect view with enhanced features like image rotation and digital zoom.



Specifications

- Display3.5" (90mm) Color TFT
- Camera Diameter.....0.7" / (17mm) LCD (320 x 240 resolution)
- Lighting4 Adjustable LEDs
- Cable Reach.....3' (0,9m) (Expandable to 30' with optional extension, also compatible with microDrain, microReel and nanoReel)
- Images.....JPG 640 x 480 Resolution
- Video.....MP4 640 x 480 Resolution
- External Memory.....SD Card up to 32 GB (4GB SD card included)
- Power SourceRechargeable 3.7V Li-Ion Battery

Included: micro CA-300 with 17mm imager, battery, charger, USB cable, hook, magnet and mirror accessories, RCA cable, AC adapter, headset with microphone, 4GB SD card, 1 year RIDGIDConnect Basic Subscription - (Must register at www.RIDGIDmicro.com)



Ordering Information

Catalog No.	Description	Wt.	
		lb.	kg
37888	micro CA-300 Inspection Camera	2.0	0,9
37103	17mm Replacement Imager	0.7	0,3
37108	3' Cable Universal Extension	0.7	0,3
37113	6' Cable Universal Extension	1.4	0,86
37083	3.7V Li-Ion Battery	.24	0,11
37098	6mm Imager Head (3')	.75	0,3



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Catalog Sheet No. R-11-N

All sales subject to Ridge Tool Company Terms and Conditions of Sales.

999-997-611.10
Effective Date: September 1, 2011

micro CA-300 Inspection Camera



See It. Find It. Solve It.®



Extra-Large 3.5" Screen

Ultra-Bright Aluminum Imager Head with 4 LEDs

Interchangeable Imager Heads Compatible with microDrain, microReel and nanoReel

360° Rotation in 90° Increments

Rechargeable 3.7V Li-Ion Battery

TV Out, USB, SD Card Storage

Speaker, Mic, Head Set Jack, AC Power Input

USB Cord, 4GB SD Card, RCA Cable, Hook, Magnet, Mirror, AC Adapter

RIDGID CONNECT ENABLED

Diagnostic Product Family

www.RIDGIDmicro.com



Cameras

- 1 37888 micro CA-300 Inspection Camera
- 2 36738 micro CA-100 Inspection Camera
- 3 40818 nanoReel + CA-300 Inspection Camera
- 4 40043 micro CA-25 Inspection Camera

Camera Accessories

- 5 37113 6' Cable Universal Extension
- 6 37108 3' Cable Universal Extension
- 7 37098 6mm Imager Head 3

Locating

- 8 19238 NaviTrack® Scout™ Locator

Test and Measurement

- 9 36153 micro IR-100 Non-Contact Infrared Thermometer
- 10 36163 micro CD-100 Combustible Gas Detector
- 11 36158 micro LM-100 Laser Distance Meter

Distributor

For the complete selection of the RIDGID product line, please refer to the Ridge Tool Catalog or www.RIDGID.com.



Course Coordinator

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