RealCareer® Welding Solutions The Future of Welding Education

guideWELD^{VR} + guideWELD^{LIVE}



Welcome to the **21st Century Welding Lab**

Create effective welders more efficiently by combining virtual reality, guided reality and live welding education.

www.realityworks.com

21st Century Welding Training Method

This 21st Century training method can be used in welding courses not only to improve welding techniques so users become more proficient, but to engage participants and encourage them to enter welding careers.

Virtual Reality



guideWELD VR welding simulator

- Engage users with 21st century technology

- Provides a safe learning environment

- Enhances basic welding skills

- Improves muscle memory learning
- Reduces the cost of consumables

Assisted Live Welding



guideWELD LIVE real welding guidance system

- Provides instruction during live welding
 - Allows users to improve welding techniques
 - Creates muscle memory
 - Generates immediate mistake correction

- Reduces classroom management concerns

Live Welding



Current Welding Booths

- Allows users to combine techniques learned in virtual reality and assisted live welding

- Tests skills like puddle reading, WPS delivery and weld assessment
- Introduces real world welding situations

Increase proficiency
Decrease consumable costs
Decrease training time

guideWELDTM VR welding simulator



guideWELD VR System Includes:

• guideWELD VR workstation with attached <u>GMAW (MIG) welding simulator gun</u>

guideWELD^{VR}

- 3 welding joints (tee, lap, butt)
- Welding gloves
- Workstation USB cable
- Workstation power supply
- Standards-based curriculum

The guideWELD VR welding simulator is a virtual reality welding simulator that enables users to master basic welding skills and learn proper technique in a safe, virtual environment.

This cost-effective system:

- Includes technique assessments on:
 - 1. Work angle, travel angle, speed and nozzle-to-plate distance and straightness
 - 2. Tee, lap and butt joints
 - 3. Different metal thicknesses
- Records virtual weld assessments with video playback so instructors can monitor progress and provide personalized feedback
- Provides unlimited seats for users and installs easily on your computer





2 guideWELD™ LIVE real welding guidance system

The guideWELD LIVE system is an in-helmet training tool for live welding that gives instant feedback on work angle, travel angle and speed while the user is performing live welds.

This cost-effective system:

- Corrects welding form and positioning during real welding on almost any MIG machine
- Makes instructors more available to provide individualized instruction
- Includes 9 default Welding Procedure Specifications, with customizable WPS's also available



User's in-helmet view while welding



guideWELD LIVE System Includes:

- Auto-darkening welding helmet with in-helmet guidance display
- Speed sensor board with base
- Angle sensor
- AA rechargeable batteries and charger
- Standards-based curriculum

* Gloves not included

Within 30 minutes of using the guideWELD LIVE system, my students get it and their welds improve, along with their confidence. ??

guide**WELD**LIVE

Greg Siepert, Welding Instructor Hutchinson Community College, Hutchinson, KS

guideWELD^{LIVE}

RealCareer[®] Welding Solutions Training/Curriculum

Developed by a certified welding instructor, both guideWELD[™] VR and guideWELD[™] LIVE training/curriculum includes lesson plans, teacher guides, presentation slides, worksheets, quizzes and assessments.

▶ guideWELD[™] VR Training/Curriculum Overview

Goals: To equip all participants with knowledge of welding safety and welding defects, and give them the tools to make weld corrections.

Length: The 20- to 30-hour curriculum is comprised of lessons and activities that can take 40-60 minutes each.

Synopsis: Each unit includes teacher guides, presentation slides, worksheets, quizzes and assessments.

Unit Number	Unit 1	Unit 2	Unit 3
Focus	Welding Careers, Types of Welding and	Welding Equipment, Basics and Defects	Introduction to Welding Simulation
	Welding Safety		
Number of Lessons	6	6	3
Lesson Topics	Welding Career Opportunities	Welding Equipment and Setup	guideWELD VR software
	Types of Welding	Welding Technique	guideWELD VR components
			and software
	Welding Safety - PPE	Welding Basics and Terminology	guideWELD VR setup
	Welding Safety Focus	Multiple Causes of Defects	Understanding diagnostic reports

▶guideWELD[™] LIVE Training/Curriculum Overview

Goals: To equip all participants with knowledge of welding safety and welding defects, and give them the tools to make weld corrections, read and weld based off of a WPS and test welds.

Length: The 20- to 30-hour curriculum is comprised of lessons and activities that can take 40-60 minutes each.

Synopsis: Each unit includes teacher guides, presentation slides, worksheets, quizzes and assessments.

Unit Number	Unit 1	Unit 2	Unit 3
Focus	Welding Careers, Types of Welding and	Welding Defects and Correction	Weld Testing and Welding
	Welding Safety		Procedure Specifications (WPS's)
Number of Lessons	6	6	4
Lesson Topics	Welding Career Opportunities	Welding Technique	Weld Testing
	Types of Welding	Identifying Welding Defects	Reading a WPS
	Welding Safety - PPE	Multiple Causes of Defects	Testing and WPS Activity
	Welding Safety Focus	Defects Assessment	Weld Testing and WPS Assessment
	Safety Review and Exam Assessment		

► guideWELD[™] VR Specifications Overview

Operating System	Windows 7+, Mac OS X 10.6+			
Processor	Minimum: SSE2 instruction set support. The SSE2 (Streaming SIMD Extensions 2) in included with Intel Pentium 4 and later pro with AMD Athlon 64 and Opteron and later	struction set is occessors, and or processors.	Recommended : Intel Pentium [®] D 2.8 GHz or AMD Athlon [™] 64 X2 4400+	
Video	Minimum : Graphics card with DX9 (shader model 3.0) capabilities. Anything made since 2004 should work.		Recommended : NVIDIA [®] GeForce [®] 7800 GT or ATI Radeon™ X1950 Pro or better	
Memory	Minimum: 1 GB RAM		Recommended: 2 GB RAM	
Storage	400 MB available HD space			
Media	USB			
Resolution	1280 x 720 display resolution or better			
guideWELD VR Hardware Specifications				
Power Source	12VDC 1.3 A 5ft. 2.5mm 10A 125 Volt			
Base	Length : 9.5 inches	Width : 18 inches		Height : 7.5 inches
Welding Simulator Gun	Standard GMAW (MIG) welding gun with 4 foot hose			
Coupons	Tee, Lap, V-Groove			
Total Product Weight	7 lbs			

► guideWELDTM LIVE Specifications Overview

Process	GMAW (MIG) only			
Joint	Tee, Lap, V-Groove			
Metal Type	Steel			
Metal Thickness	16 gauge, 1/8 in., 1/4 in.			
Welding Position	Tee, Lap (2F), V-Groove (1G)			
Available WPS's	9 Welding Procedure Specifications (WPS) included			
Customizable WPS's Available	Yes			
guideWELD LIVE Hardware Specifications				
Power Source	AA Rechargeable Batteries (includes charger)			
Base	Length : 9 inches (14 inches extended)	Width : 22 inches	Height : 13 inches	
Speed Board	Length : 13 inches	Width : 4.5 inches	Height : 1.5 inches	
Angle Sensor	Length : 1.5 inches	Width : 1 inch	Height : 0.375 inch	
Helmet	Viewing Area : 3.86 inches x 1.69 inches	Operating Temp : 23°F to 131°F	Material : Polyamide (Nylon)	
Total Product Weight	15.5 lbs (Helmet weight : 2.0 lbs)			



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American Welding Society

Supporting Company Member

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