

**LOCTITE**<sup>®</sup>

Maintain, Repair, Rebuild, Protect  
**Solutions for Hydroelectric Power Plants**



**Henkel**

# Henkel – Complete Solutions for Your Entire Hydroelectric Power Plant.

## COMPLETE PRODUCT PORTFOLIO

A full range of solutions for the Power Industry

## TECHNICAL EXPERTISE

Engineering support to help you improve your operations

## CUSTOMER PARTNERSHIP

Henkel is more than a supplier – we're committed to your success

## TRAINING

On-site, hands-on LOCTITE Maintenance Workshops

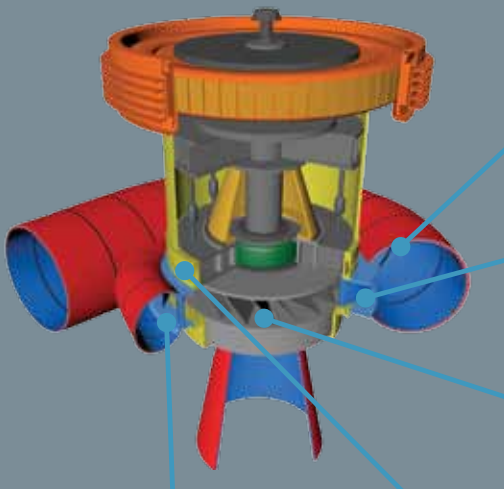
## GLOBAL REACH

Our products and services are available worldwide

## INNOVATION

Solutions developed with our customers to help solve their toughest challenges

## POWER HOUSE TURBINE



Spiral Casing  
Wear Protection

Wicket Gate  
Flange Sealing

Impeller Vane  
Wear Protection

Stay Vanes  
Rebuilding and  
Wear Protections

Turbine Bolts  
Anti-Seizing



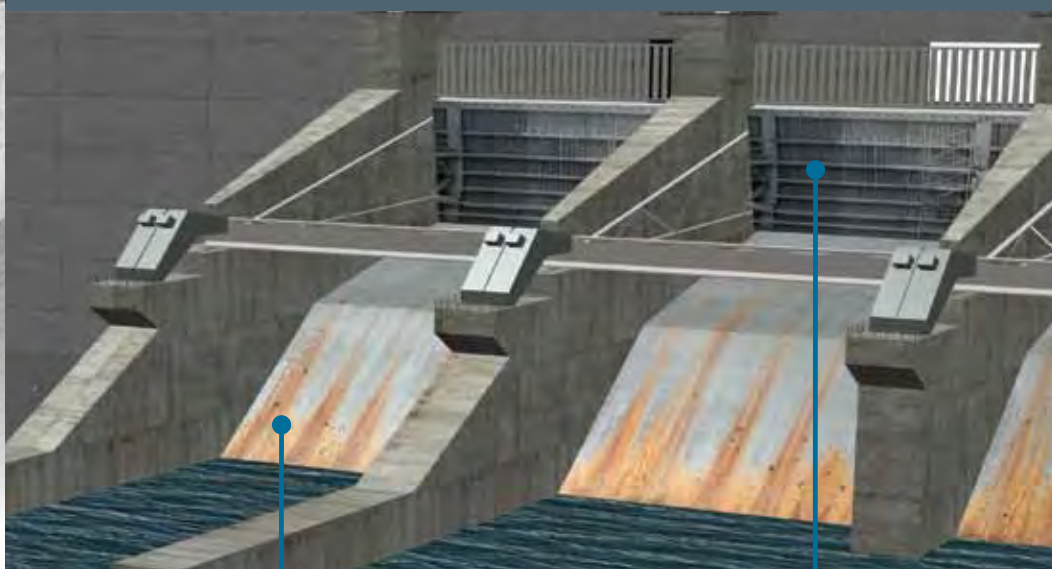


Put Henkel's expertise to work on some of your toughest challenges:

- Improving plant *efficiency*
- Increasing equipment *reliability*
- Strengthening plant *safety*
- Reducing *costs*



### DAM SITE









Dam Spillway Concrete Repair

Dam Gate Corrosion Protection









# Maintain. Repair. Rebuild. Protect.

YOUR CHALLENGE	OUR SOLUTION	BENEFITS	
<b>POWER HOUSE</b>			
<b>HYDRO TURBINE</b>			
Seizing of runner bolts due to heavy moisture	LOCTITE Marine Grade Anti-Seize or LOCTITE Heavy Duty Anti-Seize	<ul style="list-style-type: none"> <li>• No seizing; easy disassembly when needed</li> <li>• Avoids expensive process of bolt shearing/cutting</li> <li>• Prevents galvanic corrosion</li> <li>• Superior water wash-out resistance</li> </ul>	
Leakages from flange joints	LOCTITE 574, LOCTITE 518	<ul style="list-style-type: none"> <li>• 100 % sealing</li> <li>• No gasket creep</li> <li>• Joints remain leak-free during operation</li> <li>• Reduce inventory of solid gaskets</li> </ul>	
Spiral Casing abrasion and corrosion	LOCTITE PC 7333 Brushable Ceramic, LOCTITE PC 7255 Sprayable Ceramic Coating, LOCTITE PC 7222 Wear Resistant Putty	<ul style="list-style-type: none"> <li>• Provides excellent corrosion and abrasion protection</li> <li>• Prolonged service life of spiral casing</li> <li>• Improved surface finish ensures gain in turbine efficiency</li> <li>• Time and cost saving due to reduced repair needs</li> </ul>	




YOUR CHALLENGE	OUR SOLUTION	BENEFITS	
<b>POWER HOUSE</b>			
<b>HYDRO TURBINE</b>			
Stay Vanes & Ring abrasion and corrosion protection	LOCTITE PC 7333 Brushable Ceramic, LOCTITE PC 7255 Sprayable Ceramic Coating, LOCTITE PC 7226 Pneu Wear	<ul style="list-style-type: none"> <li>• Provides excellent corrosion and abrasion protection</li> <li>• Product application does not require heat in put, ensure repair conforming to original profile of component</li> <li>• Provides positive impact on turbine efficiency over traditional method - welding</li> <li>• Extended product life ensure reduced maintenance cost and maintenance time</li> </ul>	
Worn out wear plate portions lead to further wear in whole body	LOCTITE PC 7222 Wear Resistant Putty	<ul style="list-style-type: none"> <li>• Resists fine particle sliding abrasion</li> <li>• Renews worn surfaces fast - reduces downtime</li> <li>• Non sag - easy for overhead and vertical surfaces application</li> <li>• Prolongs equipment life</li> </ul>	
Leakages from lower turbine cover areas	LOCTITE SI 587	<ul style="list-style-type: none"> <li>• Reliable sealing for leak free joints</li> <li>• Withstand high joint-movement</li> <li>• Enhances load bearing &amp; shock absorbing characteristics of the bond area</li> <li>• Adheres to a wide range of substrates</li> </ul>	

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YOUR CHALLENGE	OUR SOLUTION	BENEFITS	
<b>POWER HOUSE</b>			
<b>HYDRO TURBINE</b>			
Worn out of the Labyrinth	LOCTITE PC 7333 Brushable Ceramic, LOCTITE PC 7226 Pneu Wear	<ul style="list-style-type: none"> <li>• Provides excellent erosion protection</li> <li>• Product application does not require heat in put, ensure repair conforming to original profile of component</li> <li>• Extended product life ensure reduced maintenance cost and maintenance time</li> <li>• Non sag - easy for overhead and vertical surfaces application</li> </ul>	
<b>VALVES</b>			
Abrasion and corrosion	LOCTITE PC 7333 Brushable Ceramic, LOCTITE PC 7255 Sprayable Ceramic Coating, LOCTITE PC 7222 Wear Resistant Putty	<ul style="list-style-type: none"> <li>• Repair at a fraction of replacement cost</li> <li>• Longer part life due to reduced wear</li> <li>• Ultra-smooth brushable consistency</li> <li>• Non sag - easy for overhead and vertical surfaces application</li> <li>• Easy to mix and use</li> </ul>	
<b>DRAFT TUBE</b>			
Abrasion and corrosion of Draft Tube	LOCTITE PC 7333 Brushable Ceramic, LOCTITE PC 7222 Wear Resistant Putty	<ul style="list-style-type: none"> <li>• Enhanced service life due to excellent abrasion and corrosion resistance</li> <li>• Lower maintenance cost and time due to reduced frequency of painting</li> </ul>	

YOUR CHALLENGE	OUR SOLUTION	BENEFITS	
<b>POWER HOUSE</b>			
<b>TRANSFORMER HALL</b>			
Reliable Electrical Insulation of floors	LOCTITE P2112, LOCTITE S2113, LOCTITE HDI 2113	<ul style="list-style-type: none"> <li>• CPRI approved floor coating</li> <li>• Reliable - Unlike traditional insulation - No crack &amp; no moisture entrapment</li> <li>• Improved aesthetics of power house floors</li> </ul>	
<b>DAM SITE</b>			
<b>DAM GATE</b>			
Dam gate corrosion	LOCTITE PC 7320 / Polyoxy PS, LOCTITE PC 9416 Floor Fill,	<ul style="list-style-type: none"> <li>• Corrosion protection and impact resistance</li> <li>• Cost savings due to reduced frequency of recoating</li> <li>• Enhanced adhesion to many substrates including rusted and damp surfaces</li> <li>• Good flexibility and crack bridging ability</li> </ul>	
Concrete erosion of seal beam / Side Wall / Spillway	LOCTITE PC 9626 Deep Pour Grout	<ul style="list-style-type: none"> <li>• Product bonds exceedingly well with the old concrete</li> <li>• Unmatched reliability (compressive strength 14,500 psi)</li> <li>• Reliable sealing of dam gates of seal beams</li> </ul>	

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YOUR CHALLENGE	OUR SOLUTION	BENEFITS	
<b>DAM SITE</b>			
<b>DAM SPILLWAY</b>			
Concrete cracking of Barrage pier & side walls	LOCTITE PC 9416 Floor Fill	<ul style="list-style-type: none"> <li>• High compressive strength 15,000 psi &amp; extreme low temp -29°C withstanding property of product provides excellent protection against stress cracking</li> <li>• Bonds exceedingly well with the old concrete</li> <li>• Significantly improves concrete life and helps in reducing maintenance time and cost</li> </ul>	
Spillway side wall / Spillway glaciers / Basin concrete repair	LOCTITE PC 7320 / Polypoxy PS	<ul style="list-style-type: none"> <li>• Good corrosion protection and Good impact resistance</li> <li>• Cost savings due to reduced frequency of recoating</li> <li>• Enhanced adhesion to many substrates including rusted and damp surfaces</li> <li>• Good Flexibility and crack bridging ability</li> </ul>	
<b>PENSTOCK/PIPELINES</b>			
Exterior corrosion protection of Penstocks water circulating pipelines, drainage dewatering pipelines, MIV, draft tube cone	LOCTITE PC 7320 / Polypoxy PS	<ul style="list-style-type: none"> <li>• Corrosion protection and impact resistance</li> <li>• Cost savings due to reduced frequency of recoating</li> <li>• Enhanced adhesion to many substrates including rusted and damp surfaces</li> <li>• Good Flexibility and crack bridging ability</li> </ul>	



YOUR CHALLENGE	OUR SOLUTION	BENEFITS	
<b>GENERAL</b>			
<b>GEARBOXES</b>			
Gearbox/compressor general maintenance	LOCTITE 574, LOCTITE 243, LOCTITE 638, LOCTITE 577	<ul style="list-style-type: none"> <li>• Seals close fitting joints between rigid metal faces and flanges</li> <li>• Prevent loosening of bolts</li> <li>• No backlash and distortion</li> <li>• No leakage, no wastage</li> <li>• Proactive maintenance will help avoid costly downtimes</li> </ul>	
<b>WATER PUMPS</b>			
Pump impeller and casing repair	LOCTITE EA 3478 Superior Metal, LOCTITE PC 7333 Brushable Ceramic	<ul style="list-style-type: none"> <li>• Resists corrosion, abrasion, and chemicals</li> <li>• Rebuilds worn parts fast - limits downtime</li> <li>• Improved pump efficiency</li> <li>• Reduction in power consumption up to 5% +</li> </ul>	
<b>PIPES</b>			
Prevent leakages from pipe joints	LOCTITE Pipe Repair Kits	<ul style="list-style-type: none"> <li>• Emergency repair kit</li> <li>• Repaired and can get to operations in 10 minutes</li> <li>• Does not require special training or personnel</li> <li>• Minimizes lost production time due to unscheduled shutdown</li> </ul>	
<b>SERVICE BAY</b>			
Cleaning of service bay, machine hall and substation hall and panels	LOCTITE SF 7840 Natural Blue	<ul style="list-style-type: none"> <li>• Easy and superior cleaning</li> <li>• Can be diluted with water, meet a wide range of industrial cleaning applications</li> <li>• Non-flammable, Non-caustic</li> </ul>	





**LOCTITE®**  
**BONDERITE®**  
**TECHNOMELT®**  
**TEROSON®**  
**AQUENCE®**

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