

Information ISSA

PolymerMetals®



Due to the functionality of our products on board of vessels MultiMetall has a continuous increasing strong position in the cost-conscious shipping sector. Severe damages on complex vessel parts can be repaired with our technology quickly and easily.

From Germany PolymerMetals are delivered to every port in the world within a short period of time. In addition PolymerMetals can be ordered from many worldwide operating dealers which are organised in the ISSA (= "International Ship Suppliers Association"). A listing of various MultiMetall-products can be found in the ISSA's "Ship stores catalogue".

On the next pages can be found the relevant extract of the mentioned ISSA-catalogue. Then follows an overview showing the equivalent common MultiMetall order numbers according to the ISSA-order numbers, which can be used to order all products directly at MultiMetall.

MultiMetall

the MetalExistenceCompany

PolymerMetall® • MultiMetall® • Ceramium® • Molymetall® • Sealium® • XETEX®

PolymerMetall®



PolymerMetall®, MultiMetall®, Ceramium®, Molymetall®, Sealium®, XETEX®

Metals must live longer. MM
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ORDER BY REFERENCE NUMBER AND STATE QUANTITY

7 5 - - - -

ISSA CODE NO

75.553.00 MULTIMETALL – POLYMERMETALS®**REPAIR OF COMPONENTS WITH POLYMERMETALS**

Air Sleeves • Axles • Bearing Housings • Bearing Seating • Boiler • Compensators • Compressors • Condensers / Capacitors • Conveyor Belts • Cooling Tubes • Cyclone • Cylinder Barrels • Cylinder Sleeves • Engine Blocks • Engines • Exhaust Pipelines • Exhaust Pipes • Exhaust Turbines • Gaskets • Gearbox Housings • Guide Rails • Heat Exchangers • Housings For Gas Inlet And Outlet • Hulls Hydraulic Cylinders • Hydraulic Oil Pipes • Hydraulic Pistons • Impellers • Kort Nozzles • Oil Coolers • Oil Pipelines / Oil Feed Pipes • Oil Tanks • Petrol Pipelines / Petrol Feed Pipes • Petrol Tanks • Plain Bearings • Plungers • Propellers • Pumps • Rudder Bearings • Seals Shaft Plates • Shafts • Slab Frames • Spline Shafts • Steam Pipelines / Steam Feed Pipes • Tappet Guides • Transformers • Turbine Housings • Turbochargers • V-Grooves / Keyways • Valve Housings • Valves • Vibration Dampers • Water Coolers • Water Pipes • Water Tanks

APPLICATION ON METALS AND ALLOYS**MM-metal SS-steelceramic**

MM-metal SS-steelceramic is the PolymerMetal with the widest range of application for repairs and maintenance of all metals and alloys. MM-metal SS-steelceramic offers a very high quality at mechanical repairs of damaged devices (ie. caused by crack, corrosion, abrasion, impact or chemical stress). High technical data and also the chemical resistance and bonding with the structure of metallic surfaces are remarkable features of MM-metal SS-steelceramic. The Hardener yellow offers better technical data; the Hardener red is suitable for emergency and quick repairs or at non high-stressed repairs because of the short partial and full curing time.
Machinability: with SiC-grinding plates or Diamond tools
Application consistency: pasty

ISSA CODE NO

75.553.01 MM-metal SS-steelceramic 1,150 kg
Hardener yellow
Hardener red

MM-metal SQ

Characteristic for this PolymerMetal are the extreme short full curing time and the easy processing. The powdery metal component offers, together with the liquid hardener component, a corrosion-proof alloy material with high bonding properties. MM-metal SQ can be used for repairs of components made of any metal or alloy damaged by mechanical or chemical stress or corrosion. We recommend the use of a PolymerMetal from the MM-metal SS-"product group" instead of MM-metal SQ in cases where a construction material is required (ie. for building up rudder bearings, V-grooves/keyways or bearing seatings). MM-metal SQ is a purely repair material. Hardener SQ2 is for ambient temperatures from 5°C up to minus 30°C. The other hardeners offer following application times at 20°C:

<i>Hardener</i>	<i>Pot life/Full curing time</i>
SQ8	8 min/60 min
SQ35	35 min/120 min

Machinability: with standard tools*Application consistency:* from pasty to liquid

75.553.02 MM-metal SQ 1,220 kg
Hardener SQ2

75.553.03 MM-metal SQ 1,220 kg
Hardener SQ8

75.553.04 MM-metal SQ 1,220 kg
Hardener SQ35

MM-metal SS-steel 381

MM-metal SS-steel 381 is a PolymerMetal and construction material. By using this developed MM-product desired material properties can be optimised. The high performance material MM-metal SS-steel 381 delivers the best technical data in case of mechanical and physical stress.

Machinability: with standard tools*Application consistency:* pasty

75.553.05 MM-metal SS-steel 381 0.830 kg
Hardener yellow

MM-metal SS-steel

MM-metal SS-steel is an alloy-related PolymerMetal for the repair of steel and iron materials. The alloying material contained in the polymer possesses all quality standards for the reconstitution of the nominal state in case of metallic material loss.

Machinability: with standard tools*Application consistency:* pasty

75.553.06 MM-metal SS-steel 1,050 kg
Hardener yellow

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ISSA CODE NO	ISSA CODE NO
<p>MM-metal SS-aluminium MM-metal SS-aluminium is an alloy-related PolymerMetal for the repair of components made of aluminium. MM-metal SS-aluminium is a very workable polymer-metallic material for the reconstitution of functional surfaces. <i>Machinability:</i> with standard tools <i>Application consistency:</i> pasty</p>	<p>is suitable for emergency and quick repairs or at non high-stressed repairs because of the short partial and full curing time. <i>Machinability:</i> with SIC-grinding plates or Diamond tools. <i>Application consistency:</i> pasty</p>
75.553.07 MM-metal SS-aluminium 0,650 kg Hardener yellow	75.553.11 MM-metal oL-steelceramic 1,150 kg Hardener yellow
<p>MM-metal SS-brass MM-metal SS-brass is an alloy-related PolymerMetal. This material is a polymer and an alloy of copper and zinc especially to repair damages at metallic components made of brass. <i>Machinability:</i> with standard tools <i>Application consistency:</i> pasty</p>	75.553.12 MM-metal oL-steelceramic 0,625 kg Hardener yellow Hardener red
75.553.08 MM-metal SS-brass 1,050 kg Hardener yellow	<p>APPLICATION ON WET SURFACES</p> <p>MM-metal UW MM-metal UW is a PolymerMetal with an extremely short full curing time. It is certified for repairs under water or on wet metal surfaces. Possible application areas of MM-metal UW are the repair of underwater components or the sealing of leaks. In case of water pouring from leaks at systems under pressure special accessories for this are only contained in the MM-Set UW Plus (75.553 35) MM-metal UW can be processed at ambient temperatures as low as 0°C. The hardeners offer different application times <i>Hardener Pot life/full curing time at 20°C:</i> UW3 3 min/10 min UW9 9 min/60 min UW30 30 min/120 min <i>Machinability:</i> with SIC-grinding plates or Diamond tools <i>Application consistency:</i> pasty</p>
75.553.09 MM-metal SS-copper 1,050 kg Hardener yellow	75.553.13 MM-metal UW 1,250 kg Hardener UW3
<p>MM-metal SS-copper MM-metal SS-copper is an alloy-related PolymerMetal. The formulation is a polymer and copper alloy especially for the repair of damaged metallic components made of copper. <i>Machinability:</i> with standard tools <i>Application consistency:</i> pasty</p>	75.553.14 MM-metal UW 1,250 kg Hardener UW9
75.553.10 MM-metal SS-bronze 1,050 kg Hardener yellow	75.553.15 MM-metal UW 1,250 kg Hardener UW30
<p>APPLICATION ON OILY OR GREASY SURFACES</p> <p>MM-metal oL-steelceramic MM-metal oL-steelceramic is a PolymerMetal tested and certified for the repair of oily, greasy or fuel contaminated metals and alloys in case of stress due to cracks, corrosion, abrasion, impact or chemicals. The degree of soiling does not in any way affect the bonding with the structure of the soiled metal surface. In case of oil, grease or fuel pouring from leaks at systems under pressure special accessories for this are only contained in the MM-Set oL Plus (ISSA 75.553.34). The Hardener yellow offers better technical data; the Hardener red</p>	75.553.16 MM-metal UW 0,625 kg Hardener UW3
	75.553.17 MM-metal UW 0,625 kg Hardener UW9
	75.553.18 MM-metal UW 0,625 kg Hardener UW30

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ISSA CODE NO	PROTECTION AGAINST EROSION/ABRASION/CAVITATION	ISSA CODE NO	the type of mechanical, chemical or physical stress is decisive whether VP 10-500 shall be used. VP 10-500 can be applied on cold or warm metal surfaces. <i>Machinability:</i> with SiC-grinding plates or Diamond tools <i>Application consistency:</i> pasty
75.553.19	Ceranium® Ceranium offers maximum wear resistance against continuing material loss on metallic surfaces. With viscos-hardening layers, Ceranium protects against erosion, abrasion, cavitation or corrosion in case of dry or wet stress. <i>Machinability:</i> with SiC-grinding plates or Diamond tools Ceranium Hardener CE 0,750 kg <i>Application consistency:</i> pasty	75.553.24	VP 10-500 1,300 kg Hardener VP 10-500
75.553.20	Ceranium Hardener CE1 0,750 kg <i>Application consistency:</i> liquid	APPLICATION BY SLIDING WEAR	Molymetall® Molymetall is a PolymerMetal with a very low coefficient of friction and self-lubricating properties. The emergency running properties against solid dry friction such as sliding wear and stick-slip are excellent. After full curing Molymetall can be processed to a finished measure up to the μ -area. Possible applications are ie. hydraulic pistons, pillar guides, slide bearings, slide ways, tappet guides. <i>Machinability:</i> with standard tools <i>Application consistency:</i> pasty
75.553.21	Ceranium® DW Ceranium DW is a high wear-resistant polymer-ceramic for the preservation of metals in the area of food and drinking water. Ceranium DW has been registered according to a recommendation of the Plastics Commission of the "Federal Board of Health" at the Hygiene Institute of Gelsenkirchen, Dir.Tgb.: C82/92/St. <i>Machinability:</i> with SiC-grinding plates or Diamond tools Ceranium DW Hardener CE3 0,740 kg <i>Application consistency:</i> pasty	75.553.25	Molymetall 0,830 kg Hardener Molymetall
75.553.22	Ceranium DW Hardener CE3 0,740 kg <i>Application consistency:</i> liquid	MAINTENANCE WITH ELASTOMER-SYSTEMS	MM-Elastomer MM-Elastomer is a material with rubber-like characteristics. These Urethane-Elastomer-systems unite very good combinations of physical and chemical properties. The range of MM-Elastomer goes from Shore A hardness 40 to 95. Using MM-Elastomer elastic connections can be created or elastomer components repaired which are ie. subject to abrasion. One great advantage of MM-Elastomer is, that neither primer nor conditioner is required. MM-Elastomer has a good temperature resistance and excellent bonding properties, in particular on metallic surfaces.
75.553.23	VP 10-017 A viscoplastic polymer-ceramic with high impact and cavitation resistance. Due to its low viscosity, VP 10-017 can be processed either with brush or roll coating. This extremely smooth surface protection provides very high resistance against chemicals and has a high mechanical-physical load capacity. <i>Application consistency:</i> liquid VP 10-017 Hardener VP 10-017 red 1,200 kg	75.553.26	MM-Elastomer 95 0,480 kg Hardener EL1
75.553.23	APPLICATION IN HIGH TEMPERATURE RANGE	75.553.27	MM-Elastomer 95 0,480 kg Hardener EL1
VP 10-500 A PolymerMetal for repair and maintenance of metals in the high temperature range. It is a hot-hardening material which does have a clearly higher temperature resistance than cold-hardening polymer materials. A high chemical resistance especially against sulphuric acid is given. Because VP 10-500 is founded on an organic basis, durable repairs with high technical data are possible. At high temperatures	75.553.28	MM-Elastomer 95 0,480 kg Hardener EL1	
75.553.29	MM-Elastomer 85 0,444 kg Hardener EL3	75.553.30	MM-Elastomer 65 0,444 kg Hardener EL4
75.553.31	MM-Elastomer 40 0,444 kg Hardener EL5	<i>Application consistency:</i> liquid	

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ISSA CODE NO

MM-SETS FOR MOBILE REPAIRS**MM-Sets**

Some PolymerMetals are available with plenty accessories as MM-Set to offer optimum assistance at versatile repair problems.

75.553.32	MM-Basic Set for all kind of repairs with MM-metal SS-steelceramic MM-metal oL-Steelceramic MM-metal UW Ceranium	pc
75.553.33	MM-Set SS for repairs of all metals and alloys with MM-metal SS-steelceramic	pc
75.553.34	MM-Set oL Plus for repairs of oily, greasy or fuel contaminated metals also at systems under pressure with MM-metal oL-steelceramic	pc
75.553.35	MM-Set UW Plus for repairs under water or on wet metal surfaces also at systems under pressure with MM-metal UW	pc
75.553.36	MM-Set VP 10-500 for repairs in high temperature area with VP 10-500	pc

Übersicht Bestell-Nummern aus "ISSA"-Katalog Edition 2002 / Overview order numbers from "ISSA"-catalog edition 2002

Anwendung auf Metallen und Legierungen / Application on metals and alloys

ISSA-#	Prod-#	Produkt (Deutsch)	Product (Englisch)	Einheit/Unit	Application Consistency
75.553.01	200	MM-metall SS-StahlKeramik, pst.	MM-metal SS-steelceramic, pst.	1,000 kg	pastös / paste
	248	Härter rot, pst.	Hardener red, pst.	0,100 kg	
	249	Härter gelb, pst.	Hardener yellow, pst.	0,050 kg	

ISSA-#	Prod-#	Produkt (Deutsch)	Product (Englisch)	Einheit/Unit	Application Consistency
75.553.02	300	MM-metall SQ, pul.	MM-metal SQ, pow.	1,000 kg	von pastös bis flüssig / from paste to liquid
	301	Härter SQ2, fl.	Hardener SQ2, liq.	0,220 kg	
75.553.03	300	MM-metall SQ, pul.	MM-metal SQ, pow.	1,000 kg	von pastös bis flüssig / from paste to liquid
	302	Härter SQ8, fl.	Hardener SQ8, liq.	0,220 kg	
75.553.04	300	MM-metall SQ, pul.	MM-metal SQ, pow.	1,000 kg	von pastös bis flüssig / from paste to liquid
	303	Härter SQ35, fl.	Hardener SQ35, liq.	0,220 kg	

ISSA-#	Prod-#	Produkt (Deutsch)	Product (Englisch)	Einheit/Unit	Application Consistency
75.553.05	215	MM-metall SS-Stahl 381, pst.	MM-metal SS-steel 381, pst.	0,800 kg	pastös / paste
	252	Härter gelb, pst.	Hardener yellow, pst.	0,030 kg	

ISSA-#	Prod-#	Produkt (Deutsch)	Product (Englisch)	Einheit/Unit	Application Consistency
75.553.06	201	MM-metall SS-Stahl, pst.	MM-metal SS-steel, pst.	1,000 kg	pastös / paste
	249	Härter gelb, pst.	Hardener yellow, pst.	0,050 kg	
75.553.07	205	MM-metall SS-Aluminium, pst.	MM-metal SS-aluminium, pst.	0,600 kg	pastös / paste
	249	Härter gelb, pst.	Hardener yellow, pst.	0,050 kg	
75.553.09	209	MM-metall SS-Kupfer, pst.	MM-metal SS-copper, pst.	1,000 kg	pastös / paste
	249	Härter gelb, pst.	Hardener yellow, pst.	0,050 kg	
75.553.10	211	MM-metall SS-Bronze, pst.	MM-metal SS-bronze, pst.	1,000 kg	pastös / paste
	249	Härter gelb, pst.	Hardener yellow, pst.	0,050 kg	

Anwendung auf öligen oder fettigen Oberflächen / Application on oily or greasy surfaces

ISSA-#	Prod-#	Produkt (Deutsch)	Product (Englisch)	Einheit/Unit	Application Consistency
75.553.11	2460	MM-metall oL-StahlKeramik, pst.	MM-metal oL-steelceramic, pst.	1,000 kg	pastös / paste
	249	Härter gelb, pst.	Hardener yellow, pst.	0,050 kg	
	248	Härter rot, pst.	Hardener red, pst.	0,100 kg	
75.553.12	246	MM-metall oL-StahlKeramik, pst.	MM-metal oL-steelceramic, pst.	0,500 kg	pastös / paste
	253	Härter gelb, pst.	Hardener yellow, pst.	0,025 kg	
	248	Härter rot, pst.	Hardener red, pst.	0,100 kg	

Anwendung auf feuchten Oberflächen / Application on wet surfaces

ISSA-#	Prod-#	Produkt (Deutsch)	Product (Englisch)	Einheit/Unit	Application Consistency
75.553.13	1160	MM-metall UW, pul.	MM-metal UW, pow.	1,000 kg	pastös / paste
	1170	Härter UW3, fl.	Hardener UW3, liq.	0,250 kg	
75.553.14	1160	MM-metall UW, pul.	MM-metal UW, pow.	1,000 kg	pastös / paste
	1180	Härter UW9, fl.	Hardener UW9, liq.	0,250 kg	
75.553.15	1160	MM-metall UW, pul.	MM-metal UW, pow.	1,000 kg	pastös / paste
	1190	Härter UW30, fl.	Hardener UW30, liq.	0,250 kg	
75.553.16	116	MM-metall UW, pul.	MM-metal UW, pow.	0,500 kg	pastös / paste
	117	Härter UW3, fl.	Hardener UW3, liq.	0,125 kg	
75.553.17	116	MM-metall UW, pul.	MM-metal UW, pow.	0,500 kg	pastös / paste
	118	Härter UW9, fl.	Hardener UW9, liq.	0,125 kg	
75.553.18	116	MM-metall UW, pul.	MM-metal UW, pow.	0,500 kg	pastös / paste
	119	Härter UW30, fl.	Hardener UW30, liq.	0,125 kg	

Schutz gegen Erosion/Abrasion/Kavitation / Protection against erosion/abrasion/cavitation

ISSA-#	Prod-#	Produkt (Deutsch)	Product (Englisch)	Einheit/Unit	Application Consistency
75.553.19	601	Ceramium, pst.	Ceramium, pst.	0,695 kg	pastös / paste
		Härter CE, pst.	Hardener CE, pst.	0,055 kg	
75.553.20	602	Ceramium, fl.	Ceramium, liq.	0,695 kg	flüssig / liquid
	607	Härter CE1, fl.	Hardener CE1, liq.	0,055 kg	

ISSA-#	Prod-#	Produkt (Deutsch)	Product (Englisch)	Einheit/Unit	Application Consistency
75.553.21	603	Ceramium DW, pst.	Ceramium DW, pst.	0,650 kg	pastös / paste
		Härter CE3, pst.	Hardener CE3, pst.	0,090 kg	
75.553.22	604	Ceramium DW, fl.	Ceramium DW, liq.	0,650 kg	flüssig / liquid
		Härter CE3, fl.	Hardener CE3, liq.	0,090 kg	

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ISSA-#	Prod-#	Produkt (Deutsch)	Product (Englisch)	Einheit/Unit	Application Consistency
75.553.23	705	VP 10-017, fl.	VP 10-017, liq.	0,800 kg	flüssig / liquid
	706	Härter VP 10-017 rot, fl.	Hardener VP 10-017 red, liq.	0,400 kg	

Anwendung im Hochtemperaturbereich / Application in high temperature range

ISSA-#	Prod-#	Produkt (Deutsch)	Product (Englisch)	Einheit/Unit	Application Consistency
75.553.24	701	VP 10-500, pst.	VP 10-500, pst.	0,650 kg	pastös / pasty
		Härter VP 10-500, pst.	Hardener VP 10-500, pst.	0,650 kg	

Anwendung bei Adhäsivverschleiß / Application by sliding wear

ISSA-#	Prod-#	Produkt (Deutsch)	Product (Englisch)	Einheit/Unit	Application Consistency
75.553.25	401	Molymetall, pst.	Molymetall, pst.	0,800 kg	pastös / pasty
	403	Härter Molymetall, pst.	Hardener Molymetall, pst.	0,030 kg	

Wartung mit Elastomer-Systemen / Maintenance with Elastomer-systems

ISSA-#	Prod-#	Produkt (Deutsch)	Product (Englisch)	Einheit/Unit	Application Consistency
75.553.26	951	MM-Elastomer 95, pst.	MM-Elastomer 95, pst.	0,370 kg	pastös / pasty
		Härter EL1, fl.	Hardener EL1, liq.	0,110 kg	
75.553.27	952	MM-Elastomer 95, fl.	MM-Elastomer 95, liq.	0,370 kg	flüssig / liquid
		Härter EL1, fl.	Hardener EL1, liq.	0,110 kg	
75.553.28	953	MM-Elastomer 95, str.	MM-Elastomer 95, br.	0,370 kg	streichbar / brushable
		Härter EL1, fl.	Hardener EL1, liq.	0,110 kg	
75.553.29	956	MM-Elastomer 85, fl.	MM-Elastomer 85, liq.	0,370 kg	flüssig / liquid
		Härter EL3, fl.	Hardener EL3, liq.	0,074 kg	
75.553.30	958	MM-Elastomer 65, fl.	MM-Elastomer 65, liq.	0,370 kg	flüssig / liquid
		Härter EL4, fl.	Hardener EL4, liq.	0,074 kg	
75.553.31	960	MM-Elastomer 40, fl.	MM-Elastomer 40, liq.	0,370 kg	flüssig / liquid
		Härter EL5, fl.	Hardener EL5, liq.	0,089 kg	

MM-Sets für mobile Instandsetzungen / MM-Sets for mobile repairs

ISSA-#	Prod-#	Produkt (Deutsch)	Product (Englisch)	Einheit/Unit	Application Consistency
75.553.32	802	MM-Basic Set	MM-Basic Set	Stück / pc	-
75.553.33	803	MM-Set SS	MM-Set SS	Stück / pc	-
75.553.36	806	MM-Set VP 10-500	MM-Set VP 10-500	Stück / pc	-

Hinweise / Notes:

Konsistenz/consistency: pst./pst.=pastös/pasty; fl./liq.=flüssig/liquid; pul./pow.=pulvrig/powdery; str./br.=streichbar/brushable

Alle Preise gelten EXW (= Lieferung ab Lager Deutschland excl. Verpackung). All prices EXW (=delivery ex works stock Germany excl. Packing)

Dies ist nur ein Auszug aus unserem kompletten Produktprogramm. This is just an extract of our complete product range.