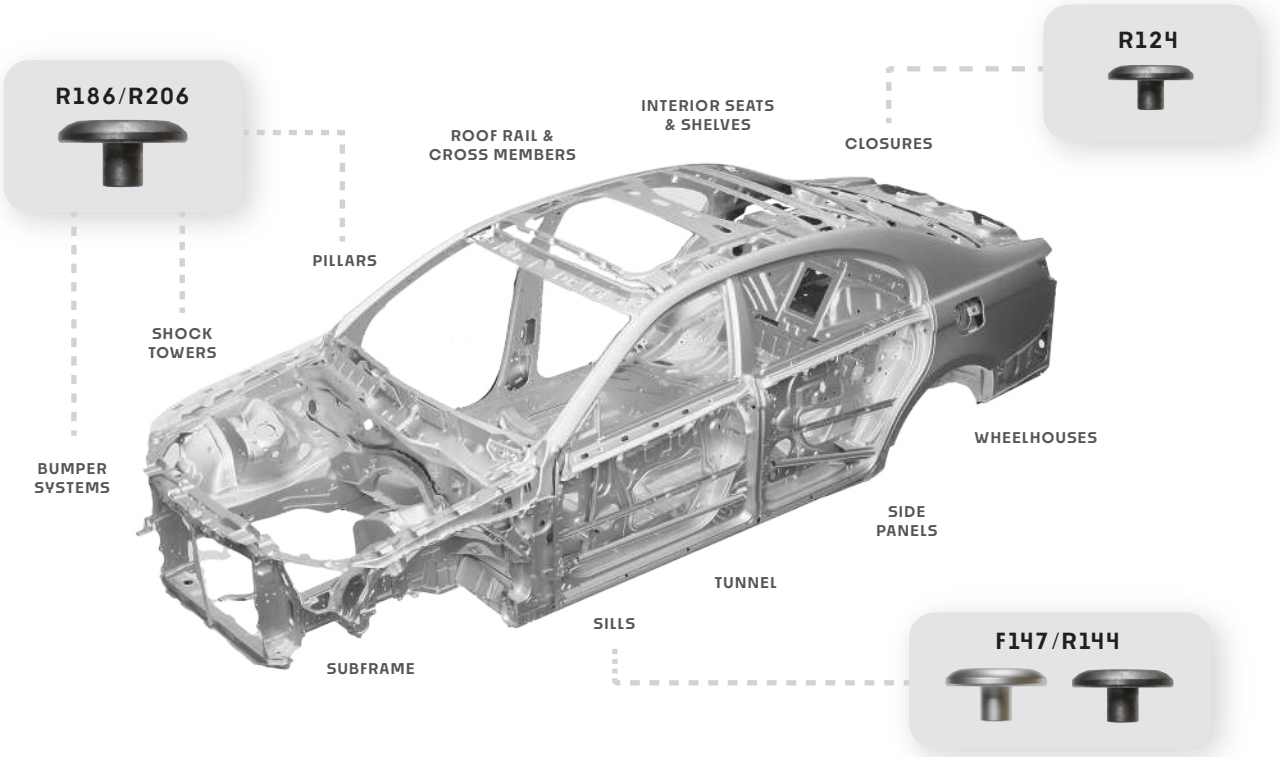
RSR
MULTI-MATERIAL JOINING
PATENTED

RESISTANCE SPOT RIVETING

MIXED MATERIAL JOINING FOR NEXT GENERATION STRUCTURES

RSR™, is a patented single-step multi-material joining technology that provides manufacturers the ability to join a variety of multi-material combinations, including aluminum giga-castings and Ultra-High Strength Steels.



PRODUCT VARIANTS

5 product variants to cover a variety of joining applications

STEEL RSR®

Available Sizes:

RSR®-R124-X
RSR®-R144-X
RSR®-R186-X
RSR®-R206-X

ALUMINUM RSR®

Available Sizes:

RSR®-F147-X

NAMING CONVENTION:

EXAMPLE: RSR - R | 14 | 4 - | 5

RIVET MATERIAL
R = Steel
F = Aluminum

DIAMETER OF RIVET HEAD
Measured in mm
12 • 14 • 18 • 20

DIAMETER OF RIVET STEM
Measured in mm
Note: dictated by head diameter

GRIP LENGTH
Measured in mm
Length of rivet stem
Application dependent

COMBINATION FLEXIBILITY

Seamlessly Transition from Monolithic to Dissimilar Material Combinations

STEEL RSR

ALUMINUM RSR

SELF-PILOT

STEEL RSW | COMPOSITE TO STEEL | MAGNESIUM TO STEEL | ALUMINUM TO STEEL | STEEL TO ALUMINUM | COMPOSITE TO ALUMINUM | ALUMINUM TO ALUMINUM | ALUMINUM RSW

RESISTANCE SPOT RIVETING

Patented Rivet Delivery System (RDS) delivers RSRs to the tip of the weld gun to be consumed during welding

RDS is designed to be retrofit onto existing equipment - Weld gun brand agnostic

Seamlessly transition between spot welding and RSR

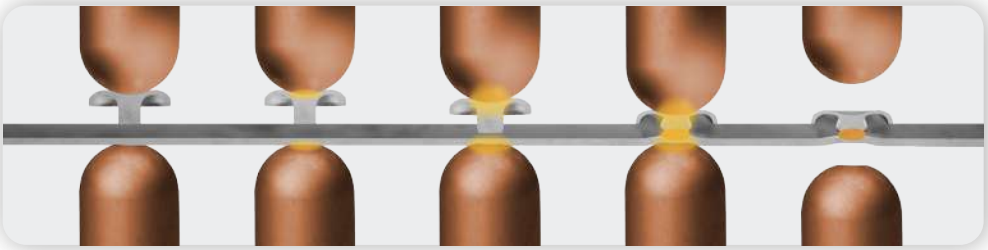
RSR has self-pilot capabilities up to 4mm (Development ongoing to expand this)

Cycle time of 4-5 seconds per rivet - dependent on robot movement required (Weld schedule length comparable to RSW)

Ability to join multiple thickness and sheet combinations (3T and greater)

ASSEMBLY STAGES

RSR's patented single-step installation process allows for the joining of magnesium and aluminum to steel without the need for a pilot hole, reducing process complexity.



THICKNESS CHECK | PRE-HEAT | SELF-PILOT INSERTION | WELD NUGGET FORMING | INSTALLATION COMPLETE

centerline®

HOWMET AEROSPACE